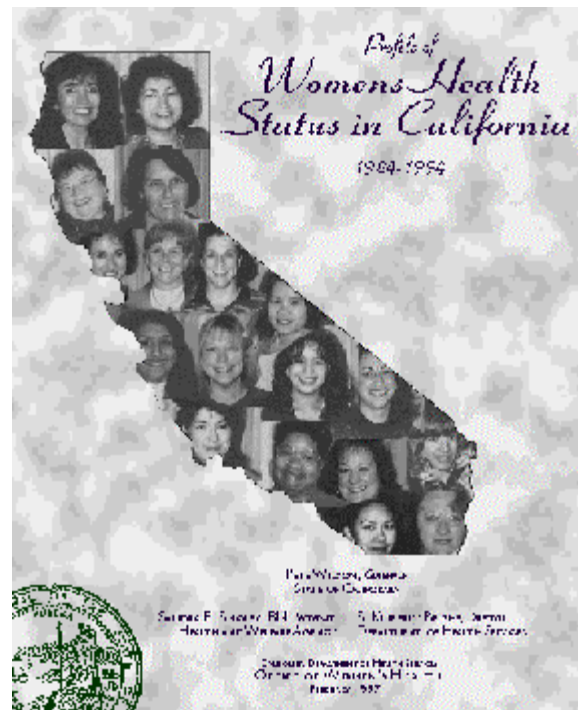# Profile of Women's Health Status in California, 1984-1994

Profile of Women's Health Status in California, 1984-1994

Preapred by:

Mary Nelson, PhD, MPH

Office of Women's Health

Sheila Dumbauld

Center for Health Statistics

Pete Wilson, Governor

State of California

Sandra R. Smoley, RN, Secretary

Health and Welfare Agency

S. Kimberly Belshe', Director

Department of Health Services

EXECUTIVE SUMMARY

Historically, research on women's health problems has centered on reproductive health issues. In recent years, however, we've learned that many other health conditions affect women during their life span. We've also learned that many of these health conditions, even if not unique to females, are major causes of illness and death in women. Now, with the publication of this first-of-its-kind report, we have a much-needed tool for monitoring the health status of California women.

The *Profile of Women's Health in California* is a statistical overview of women's health from 1984 through 1994. Using a number of existing data sources, this report describes both the frequency of women's health problems and the trends for this ten-year period on selected causes of morbidity, hospitalization, mortality, and natality, as well as the prevalence of certain risk factors for women in California. The report also provides information on the demographic and socioeconomic characteristics of the state's female population and, while including male/female comparisons, primarily focuses on comparisons among females by race/ethnicity and by age.

A collaborative effort by the Department of Health Services' Center for Health Statistics and Office of Women's Health, the *Profile of Women's Health in California* illustrates that the health of California women improved in several areas from 1984 through 1994. Among other things, death rates for heart disease and cancer, while still the leading causes of death for California women, declined; the percent of women over 50 who never had a mammogram decreased as did

mortality due to breast cancer; cases of gonorrhea and syphilis decreased dramatically; and deaths due to motor vehicle accidents and suicide declined.

It should be noted that the Governor and Legislature have done much in recent years to help improve the health status of California women. These efforts have included initiatives to promote the importance of prenatal care, provide information on available services and expand access to care for the working poor; to increase access to breast cancer screening and diagnostic services for low-income uninsured women; to halt the spread of sexually transmitted diseases; and to promote the use of seat belts. California's policy makers have also devoted substantial resources to educating Californians about the serious health risks associated with tobacco use, resulting in a substantial decline in the adult smoking prevalence rate.

Despite this progress, the data in this report show that the status of women's health declined in several areas from 1984 through 1994. For example, there was an increase in mortality associated with diabetes, lung cancer, chronic obstructive pulmonary disease and AIDS; the percent of California women who were obese increased; and the incidence of Chlamydia rose considerably.

Highlights from data on the effects of race/ethnicity and age on women's health status include:

Effects of Race/Ethnicity on Women's Health Status

In 1990 the women with the longest life expectancy at birth were Asians and Others (84.2 years), followed by Hispanics (84.0 years), whites (79.1 years), and African Americans (73.7 years). Women in these race/ethnic groups had longer life expectancy than males of any group with one exception: male Hispanics had a longer life expectancy (76.4 years) than did African American females (73.7 years).

It appears that life expectancy is not directly related to socioeconomic factors such as education and income levels: white women were least likely of all women to have income levels below 200 percent of poverty level or to have less than a high school education. Nevertheless, their life expectancy was shorter than that of both Hispanic and Asian/Other women.

Asian Women -- Asians as a group were more likely than other groups to have never received a mammogram or Pap test. Not receiving these screening exams puts them at higher risk for late diagnosis of breast or cervical cancer.

Southeast Asian Women -- Southeast Asian women had high fertility rates combined with high teen birth rates, and high rates of late prenatal care. A large proportion of the births were paid for by Medi-Cal, which indicates that many of these mothers were poor.

African American Women -- African American women had the shortest life expectancy. They had the highest levels of mortality at every age and the highest mortality from heart disease and stroke. They also had the highest prevalence of hypertension and obesity, two of the leading risk factors for cardiovascular disease. African American women had the highest mortality rates for homicide and for AIDS. They also had the highest incidence of other sexually transmitted diseases (syphilis and gonorrhea). Relatively large proportions of African American women reported having incomes in the poverty range and limited education levels, especially the elderly.

Hispanic Women -- Hispanic women were least likely of all women to have any insurance coverage and least likely to begin prenatal care in the first trimester of pregnancy, although they had the highest fertility rates and largest family size.

A high percent of the elderly Hispanic women had never received a mammogram. They were also more likely than other seniors to have less than a high school education and to use a language other than English at home. Together, these factors suggest that health education messages do not reach them easily.

Native American Women -- Health data that identify Native American women separately from other race/ethnic groups are limited. However, the available information suggests that this is a high risk group. Among Native American women who gave birth during the period covered by this report, relatively large percentages were teens, had less than a high school education, began prenatal care late, and relied on Medi-Cal to pay for the birth. Findings from the risk factor survey suggest that Native American women have elevated risk of smoking, binge and chronic alcohol abuse, obesity, hypertension, and arthritis. Among the elderly Native American women, a relatively high percentage has never received a Pap test to detect cervical cancer and a high percentage lack health insurance of any kind.

White Women -- White women had the second shortest life expectancy. They were at greater risk for death due to breast cancer and suicide than were other women. Among younger women, whites were more likely to smoke and to abuse alcohol than other groups. Among elderly women, whites had elevated risk of death due to falls and chronic obstructive pulmonary disease.

Effects of Age on Women's Health Status

Childbearing Age (18-44 Years Old) -- Women of childbearing age have increased need for medical care for pregnancy and childbirth, and increased need for economic resources to care for their families. However, women in this age group were at greater risk of being poor than were older women and were more likely to lack insurance coverage. New mothers were more likely to live below the poverty line and to have less than a high school education than were other women.

Seniors (Age 65 and Older) -- Senior women were most at risk for sickness. Almost half reported that they had been diagnosed with hypertension, about one-quarter were obese, and about 60 percent had arthritis. Fortunately, nearly all had health insurance because of the Medicare Program. However, over half of the senior women in California had incomes in the poverty range.

Finally, the data in this report identify a number of emerging problems that are likely to cause an increasing burden of illness among women in California and an increasing need for health care services. These problems include:

Aging of the "Baby Boom" -- Women who were born in the post-World War II "baby boom" had reached ages 35-45 during the period covered by this report. They will reach age 55-65 in 2010 and age 65-75 by 2020. These changes are likely to lead to increases in the need for medical services for the health problems that affect women in these age

groups.

AIDS -- Female mortality due to AIDS increased significantly in women among all race/ethnic groups, particularly among African American women.

Obesity -- Obesity was the only behavioral risk factor which showed a significant increase among California women during the past decade. The increase was greatest among African American and Hispanic women. Obesity is an important risk factor for the leading causes of hospitalization and death among women, including: heart disease, stroke, some cancers, and diabetes.

In addition to serving as a baseline tool for the ongoing monitoring of the health of women in California, this report will assist policy makers in identifying and, ultimately, in addressing unmet needs in the areas of disease and injury prevention, health services, and data collection.

HISTORICAL PERSPECTIVE ON WOMEN'S HEALTH

A woman's health care needs vary significantly during her lifetime. Historically, female health care for young adults and women through their middle forties has focused on reproductive health. Beginning around age fifty, health care services for women have focused primarily on issues related to menopause, a variety of chronic conditions, and long-term care.

Health research has followed a similar path. The fact is, much of the health research in the past focused exclusively on men, and many researchers failed to recognize that women are affected differently from men by some diseases and treatments. In recent years the focus of studies on women's health issues has expanded from reproductive health issues to include health problems that occur with great frequency in women, even though they also affect men. The clearest example of this problem is heart disease. Focus also has shifted away from an exclusive emphasis on acute interventions to include issues of screening, diagnosis, and treatment that have been poorly validated or poorly utilized in women.

At the beginning of this century, infectious diseases were the major cause of death in the United States, but there has been a shift away from infectious disease toward noninfectious conditions as the leading causes of mortality. This shift resulted from a reduction in mortality from infectious diseases as well as an increase in chronic conditions such as heart disease and cancer (1). Although noninfectious conditions are now the leading causes of mortality, infectious diseases continue to be responsible for a significant number of preventable illnesses and deaths, and remain an important health concern for women throughout their lives. For example, because women constitute the majority of persons over 65 years of age in the United States, they are affected disproportionately by influenza. Other infectious diseases, including AIDS and other sexually transmitted diseases, also are a major health concern for women.

It is hoped that this report will stimulate additional research and discussion of the health status and health care needs of women in California.

SECTION 1
DEMOGRAPHIC DATA

Three kinds of demographic indicators were selected for inclusion in this report:

- A description of the California population in 1990 in terms of age, gender, and race/ethnicity, plus historical trends in these population characteristics;

- Social and economic characteristics of women in California in 1990, including levels of poverty and education, language usage, marital status, and number of children;

- An evaluation of the association between poverty and these social characteristics among women in 1990.

The primary data source for this section was the US Census. Estimates of the total population characteristics and trends are based on the US Census files for 1970, 1980, and 1990, provided by the California Department of Finance. The five percent Public Use Microdata Sample (PUMS) version of the 1990 US Census was used for the studies of social and economic factors.

Please refer to Appendix A for the frequencies and rates that were used in preparation of the charts presented in this section.

Definitions Used in This Section

Unless defined otherwise, throughout this section the term "childbearing age" refers to ages 18-44 years, "middle age" refers to ages 45-64 years and "senior" refers to ages 65+ years. Poverty is defined as having a family income below 200 percent of the federal poverty level (FPL).

The California Population: Size, Age, Gender, and Race/Ethnicity

As shown in Table 1.1, the total California population grew by 49.6 percent, from approximately 20 million in 1970 to approximately 30 million in 1990. During that same period, the female population grew from 10 million to 15 million.

Females made up 49.9 percent of the total population in 1990. Less than half (48.7 percent) of the population under age 45 years was female, while almost three fourths (71.0 percent) of adults age 85 and over were female (Table 1.1). The age when females became the majority of the population shifted upward during this period, from age 41 years in 1970 to age 45 years in 1990 (Data not shown).

Age Distribution of the California Population

The age distribution of the California population in 1990 shows a large "bump" for persons aged 35-45 years, reflecting the post-World War II "baby boom" plus in-migration of young adults (Figure 1.1). This "bump" was clear among whites and Hispanics, but was very slight for other groups. Second, there was a "dip" in the line representing the number of adults aged 50-60 years, reflecting the lower birth rate during the Depression of the 1930s. Third, for seniors aged 60-75 years there was a second "bump", but only among whites. A relatively large proportion of the elderly population in California was identified as white in 1990 (79 percent of females and 78 percent of males).

As shown in Figure 1.2, the "baby boom bump" has been a prominent feature of the age distribution of the California female population for a number of decades. The oldest members of this group will reach retirement age in the year 2010. From that year through 2025, there will be elevated numbers of elderly persons in the population, two thirds of whom will be women (Data not shown).

Race/Ethnicity of the Female Population in California, 1990

Total Female Population. The details of the composition of the female population are shown in Figure 1.3. Just over half (58.1 percent) of California females in 1990 were white, a quarter (24.8 percent) were Hispanic, 10.0 percent were Asian/Other, and 7.2 percent were African American. The Asian population requires further breakdown as follows:

Among Asians, over one fourth were identified as Filipino (27.5 percent) and another quarter were identified as Chinese (25.8 percent). Southeast Asians, Japanese, Asian Indians, and Koreans each made up 10-17 percent of the Asian female population, as shown in Figure 1.4.

Age and Race/Ethnicity. As shown in Figure 1.5, the race/ethnic group composition of the 1990 population was different for different age groups. Whites made up 45.2 percent of the preschoolers, but 79.0 percent of the seniors. In contrast, Hispanics made up 36.7 percent of preschoolers, but only 9.9 percent of seniors. The percentage who were African American was 8.3 percent among preschoolers, decreasing to 5.0 percent among seniors. The Asian/Other group made up 9.8 percent of all age groups up to age 65 years and 6.1 percent of seniors.

Education Level of the Female Population of California, 1990

The level of education among women in California has been increasing: a smaller percentage of women of childbearing age had less than a high school education (21.0 percent) compared with senior women (37.9 percent), and a higher percentage had completed a bachelor's degree or higher (20.2 percent of childbearing age women compared with 10.9 percent of seniors).

The percent of women with less than a high school education varied across race/ethnic groups as shown in Figure 1.6. The highest percent was found among Hispanics (48.7 percent of childbearing age women and 76.3 percent of seniors), followed by Native Americans (22.7 percent of childbearing age women and 52.2 percent of seniors), Asians (17.8 percent of childbearing age women and 56.6 percent of seniors), African Americans (16.2 percent of childbearing age women and 58.2 percent of seniors), and lowest among whites (9.4 percent of childbearing age women and 30.6 percent of seniors).

The percent of women who had completed a bachelor's degree also varied by age and race/ethnicity, as shown in Figure 1.7. In general, women of childbearing age were more likely to have obtained a four year degree than were middle aged women or senior women. Among women of childbearing age, Asians (32.4 percent) were most likely to have completed a four year degree, followed by whites (25.7 percent).

Language Spoken At Home

About one third of all California women of childbearing age spoke a language other than English at home, compared with 28.6 percent of middle age women and 21.1 percent of seniors. This percent was highest among Asians (78.9 percent of childbearing age women, 89.5 percent of seniors) and Hispanics (77.0 percent of childbearing age women, 84.8 percent of seniors). Among whites, African Americans, and Native Americans, 6-10 percent of childbearing age women and 4-14 percent of seniors used a language other than English at home, as shown in Figure 1.8.

Women who reported little formal education were most likely to use a language other than English at home, especially among women age 65 and over. As shown in Figure 1.9, among women of childbearing age, 40.7 percent of those who had not finished high school used a language other than English at home, compared with only 11.1 percent of those who had completed a bachelor's degree. Among women ages 65 and over, 62.4 percent of those who had not finished high school used a language other than English at home, compared with only 4.2 percent of those who had completed a four year degree. Thus, a large proportion of women, particularly seniors, who had limited formal education also used English as a second language.

Marriage, Children, and Household Composition

Marriage. In 1990, over 53.3 percent of California women of childbearing age and 65.0 percent of middle aged women were married. Among senior women, 40.1 percent were married, but a slightly larger percent (45.9 percent) were widowed.

As shown in Figure 1.10, the percent of women of childbearing age who were married ranged between 55 percent and 60 percent for Asians, Hispanics, and whites. It was slightly lower among African Americans (31.6 percent) and Native Americans (47.1 percent). Among seniors, the percent who remained married ranged from 42 percent among Asians and whites to 36 percent among Hispanics and 26-30 percent among African Americans, Native Americans, and others.

As shown in Figure 1.11, the percent of women who were separated or divorced varied widely among these race/ethnic groups. Among women of child-bearing age, the percent who were divorced or separated was 6.4 percent for Asians, 11.1 percent for Hispanics, 14.7 percent for whites, and 20 percent for African Americans and Native Americans. These percentages were higher for middle aged women in all groups, reaching 9.6 percent among Asians, compared with 36.8 percent of African Americans and 27.2 percent of Native Americans.

As shown in Figure 1.12, among seniors almost half (46 percent) were widowed, in all race/ethnic groups. This percent ranged from 45.3 percent of whites to 53.1 percent of Native Americans.

Number of Children. As shown in Figure 1.13, 40.7 percent of women in the childbearing ages had no children, 18.4 percent had one child, and 34.0 percent had two or three children. The percent who had four or more children was 7.5 percent overall, but reached 13 percent for Hispanic women.

Head of the Family. In 1990, about two thirds (64.0 percent) of all California households were families and the remaining third were single adults and persons living in institutions. Among family households, three quarters (77.2) were headed by a married couple, 16.5 percent were headed by a single female, and 6.3 percent were headed by a single male. However, among families with incomes below 200 percent of the federal poverty level, the percent headed by a couple was only 58.9 percent, while the percent headed by a single female rose to 32.6 and the percent headed by a single male rose to 8.6, as shown in Figure 1.14.

Income, Defined as Percentage of Federal Poverty Level

The women most likely to be living at or below 200 percent of the federal poverty level (FPL) were those of childbearing age (31.5 percent) and seniors (38.8 percent), compared with middle aged women (20.4 percent). As shown in Figure 1.15, the percent of childbearing age women living in poverty was higher among Hispanics (50.9 percent), African Americans, and Native Americans (both 42 percent), than among Asians (29.5 percent) and whites (21.3 percent). Thus, except for whites, between one third and one half of California women in their child bearing years had incomes below 200 percent of the federal poverty level (FPL).

Among seniors, the percent of women with incomes below 200 percent FPL reached 59.5 percent for African Americans, 54.3 percent for Native Americans, 52.6 percent for Hispanics, 37.4 percent for Asians, and 35.9 percent for whites. Thus, in all race/ethnic groups at least one third of the elderly women were poor and this percent reached nearly two thirds among African Americans.

As shown in Figure 1.16, the women who were most likely to live above 500 percent of the federal poverty level were those in the mid-adult age range in all race/ethnic groups. The proportion was highest among whites (50.3 percent) and Asians (35.8 percent).

Employment

As shown in Figure 1.17, there was little variation in women's employment status across race/ethnic groups. Approximately half (53.7 percent) of the women aged 16 years or older were employed in civilian work, in all race/ethnic groups and approximately two fifths (42.3 percent) were outside the labor force. The percentage who reported being unemployed was slightly higher among Hispanics (6.6 percent), African Americans (6.3 percent), and Native Americans (5.4 percent), compared with whites and Asians (about 3 percent). The percent who were in the military, while generally low, was higher among African Americans (0.7 percent) and Native Americans (0.5 percent), compared with women in other groups (0.1 percent to 0.3 percent).

Participation in the labor force varied considerably by age, as shown in Figure 1.18. As expected, most women aged 65+ years were outside the labor force (90.6 percent), although 8.8 percent claimed to be still employed. Among women of childbearing age, the percent with civilian employment (66.1 percent) was higher than among women ages 54-64 years (57.4 percent). The percent of women who were outside the labor force was higher among middle aged women (39.9

percent) than among women of childbearing age (28.9 percent). Thus, women in the age group most likely to have children at home were likely to be employed outside the home.

California women had a 50-50 chance of being in the labor force, even if they were married or had preschool age children. As shown in Table 1.2, the majority of women in the childbearing and middle age groups were employed, even among those who were married or who had young children at home. Over half of women with preschool aged children (52.4 percent of childbearing and 53.6 percent of middle aged women) were employed. Two thirds of the women with school-aged children (69.7 percent of childbearing age women and 61.5 percent of middle aged women) were working. Among women who were married, 63.1 percent of those of childbearing age and 53.6 percent of middle aged women were employed. The women most likely to be working, in both age groups, were those who were separated or divorced (72.1 and 71.0 percent of childbearing and middle age women respectively).

Association Between Poverty and Other Demographic Indicators

Education Level and Poverty.

As shown in Figure 1.19, there was a very strong association between level of education and risk of living in poverty for women in all age groups. For example, among women of childbearing age, 61.2 percent of those with less than a high school education were poor, compared with only 12.7 of those with a bachelor's degree, almost a five-fold difference. Similarly, among middle-aged women, the percent who were poor was 41.0 percent for women with less than a high school education compared with 8.0 percent of those with bachelor's degrees (also a five-fold difference). Among seniors, there was about a three-fold difference (54.2 percent of women with less than a high school education vs. 19.1 percent of women with bachelor's degrees). Nevertheless, nearly two fifths of seniors with bachelor's degrees had incomes below the poverty level.

Use of a Language Other Than English at Home and Poverty

As shown in Figure 1.20, women who spoke a language other than English at home had twice the risk of having an income below 200 percent of the federal poverty level, among women of child bearing age (46.3 percent, compared with 24.2 percent of English speakers), middle aged women (31.3 percent, compared with 16.0 percent of English speakers), and seniors (46.2 percent, compared with 36.9 percent of English speakers).

Marital Status and Poverty

For all age groups, widows were most likely to be poor, followed by women who were divorced or separated. As shown in Figure 1.21, married women were only half as likely to live below 200 percent of the federal poverty level, compared with all other women. Among women of childbearing age, 22.8 percent of the married women were poor, compared with 40.1 percent of the never married, 43.9 percent of the separated/divorced women, and 54.7 percent of widows. Among middle aged women, 12.8 percent of the married women were poor, compared with 34.4 percent of the never married, 32.2 percent of the separated/divorced women, and 39.2 percent of widows. Among seniors, 20.8 percent of the married women were poor, compared with 46.6 percent of the never married, 50.4 percent of the separated/divorced women, and 51.4 percent of widows.

Head of Household and Poverty

The percent of families with income below the federal poverty level was highest for those headed by a single female (31.0 percent), followed by those headed by a single male (17.7 percent), and those headed by a couple (7.8 percent). In contrast, the percent of families with incomes above the "working poor" level (i.e., above 300 percent FPL) was lowest among those headed by a single female (25.5 percent) and higher for those headed by a single male (38.5 percent) or by a couple (57.0 percent), as shown in Figure 1.22.

Summary of Population Characteristics

The age distribution of California women is complex. Women born during the post World War II "baby boom" have been an identifiable "bump" in the age curve for a number of decades. They reached ages 35-45 years by 1990 and will begin reaching age 65 in the year 2010.

The race/ethnic group composition of the female population is also complex. Whites and Hispanics each made up two fifths of the preschool age population, but among seniors, four fifths were white. African Americans made up 8 percent of the preschoolers and 5 percent of the seniors. Asians/Others made up 11 percent of the preschoolers and 6 percent of the seniors. The Asian population was composed of a number of distinct subgroups.

The education level of women has been improving: a larger percent of each successive birth cohort has completed high school. Among women over age 65 years at the time period covered by this report, 50-60 percent had less than a high school education (except among whites, with only 30.6 percent reporting less than a high school education).

A majority (60 percent) of women in the age range 18-64 years were married and a majority (60 percent) had at least one child. Approximately 40 percent of California women did not report living in the traditional "marriage-plus-children" family environment; in fact, only 50 percent of California households were families headed by a married couple. Women who were not married (including those who were widowed, no longer married, or never married) were twice as likely to be poor as married women. Households headed by a single female were four times more likely to live below the federal poverty level than families headed by a couple.

A majority of women with families were in the labor force: 63 percent of married women, 52 percent of mothers whose children were preschoolers and 69 percent of mothers with school aged children were working outside the home. The percent of women of childbearing age who were working was greater than the percent of middle aged women who were working.

Poverty was most prevalent among seniors (almost 40 percent), followed by women of childbearing age (30 percent). Thus, the women who were most likely to need extra resources to care for health problems were also most likely to be poor. Risk of poverty was twice as high among Hispanic, African American, and Native American women, compared with whites.

This demographic information--including age distribution, race/ethnic group membership, family composition, employment, education, and income--is provided as background about the female population in California. However, only age and race/ethnicity are routinely collected for morbidity, mortality, and hospitalization records. As a result, in the following analyses, using existing health data, only the effects of age and race/ethnicity on health status are reported.

SECTION 2

LIFE EXPECTANCY

Life expectancy for the California population increased by 6.4 years over the past decade, from 74.8 years at birth in 1980 to 76.1 years in 1990, as shown in Table 2.1. However, this increase was not seen in all race/ethnic groups. There was an increase in life expectancy among whites (1.0 year) and Hispanics (4.7 years), but there was a decrease in life expectancy among African Americans (0.7 years) and the Asian/Other group (1.3 years). As of 1990, the longest life expectancy was found among Asian/Others (81.2 years), followed in order by Hispanics (80.2 years), whites (75.9 years), and African Americans (69.2 years).

Life expectancy was longer for females than for males within each race/ethnic group, although the differential between males and females became narrower between 1981 and 1991. The male/female differential in life expectancy for 1990 was greatest for African Americans (8.9 years), followed by Hispanics (6.7 years), whites (6.5 years), and Asian/Others (5.8 years).

Among females, by 1990 the group with the longest life expectancy was Asian/Others (84.2 years), followed by Hispanics (84.0 years), whites (79.1 years), and African Americans (73.7 years). By 1990, all of the female groups had longer life expectancy than any male group with one exception: male Hispanics had a longer life expectancy (76.4 years) than did African American females (73.7 years).

Thus, in predicting a person's life expectancy, gender is generally a more important factor than is race/ethnicity. Also, it appears that life expectancy is not directly related to socioeconomic factors such as education and income levels: white women were least likely of all women to have income levels below 200 percent of poverty level or to have less than a high school education. Nevertheless, their life expectancy was shorter than that of both Hispanic and Asian/Other women.

SECTION 3

MORTALITY

This section of the report focuses on mortality patterns, first comparing males with females, and second, comparing females of different race/ethnic groups. These data were obtained from the

California death certificates for the years 1985-1994.

As in other industrialized societies, the two most common causes of death in California are heart disease and cancer. As shown in Table 3.1, heart disease deaths in 1994 numbered 33,816 for males (29.0 percent of all male deaths) and 34,496 deaths for females (or 32.4 percent). Cancer deaths for males accounted for 26,103 or 22.4 percent of all male deaths. Females had 25,144 deaths due to cancer, or 23.6 percent of all female deaths. Comparisons between males and females showed that the remaining eight causes of death were different for each. For males, the third leading cause of death was unintentional injury deaths, accounting for 6,421 or 5.5 percent of all males deaths; while for females it was stroke, with 9,421 deaths or 8.9 percent of all female deaths. The fourth and fifth leading causes of death for males were stroke and AIDS. For females, they were Chronic Obstructive Pulmonary Disease (COPD) and Pneumonia/Influenza.

Another striking difference between males and females was the finding that diabetes was the seventh leading cause of death for females but was not included in the ten leading causes of deaths for males. Additionally, homicide and suicide were the eighth and ninth causes of death for males, but were not in the ten leading causes of death for females. It is interesting to note that while a large portion of the research on heart disease has historically used only male participants, a larger portion of female deaths are due to heart disease (32.4) in comparison with males (29.0 percent).

Age-Adjusted Death Rates for Females

The rates shown in the in next five tables are age-adjusted using the 1940 standard million as the standard. Age-adjusting eliminates the effects of age when calculating rates and allows for a more meaningful comparison among race/ethnic groups. Race/ethnic groups have different age compositions, with whites having an older population and Hispanics having a younger one. Using age-adjusted rates removes the differences that would be a result of differences in the age composition of the populations being compared. (For further explanation of calculation of age-adjusted rates, see Appendix E).

Age-adjusted mortality rates for selected causes are presented in Table 3.2 for the period 1985 through 1994. They are listed in order from highest rate to lowest. Note that the order differs from that of Table 3.1, which presents percentages of all deaths. This difference results from the age-adjustment of the mortality rates (See Appendix E). For all females, there were statistically significant decreasing trends over the ten-year period for heart disease, stroke, all cancers, breast cancer, motor vehicle accidents and suicide. Trends for homicides, cervical cancer deaths, and unintentional injury deaths have been decreasing but these trends were not statistically significant. The greatest decreases were for suicide (34.0 percent), unintentional injuries (32.0 percent) and homicide (27.8 percent). Mortality rates for lung cancer, diabetes and AIDS showed statistically significant increases since 1985.

Cancer had the highest age-adjusted rate per 100,000 females with a rate of 104.2 in 1994. The cancer death rate has shown a statistically significant decrease since 1985, when the rate was 111.0. Significant shifts occurred in the relative frequency of the site for cancer. Breast cancer deaths showed a significant decrease between 1985 and 1994, while lung cancer deaths showed a significant increase. In 1994, the age-adjusted death rate for lung cancer was 25.2 per 100,000 females while the age-adjusted death rate for breast cancer was 19.9. Age-adjusted death rates

for cervical cancer have remained fairly stable over the ten-year period. No significant trend was found for cervical cancer.

The second-highest age-adjusted mortality rate among females was for heart disease. There has been a steady and statistically significant decrease in heart disease mortality over the ten-year period. In 1985 the age-adjusted death rate for heart disease was 91.7 per 100,000 females and by 1994 that rate had dropped to 73.9.

Diabetes deaths had the third-highest age-adjusted rate for females. In 1985, the rate was 31.6 per 100,000 females and by 1994 that rate had increased to 36.2, a trend that was statistically significant. Stroke deaths were the fourth-highest age-adjusted rate for females. Since 1985 when the age-adjusted death rate was 29.4, the mortality rate for stroke has decreased significantly, to 23.8 per 100,000 females.

Trends in Mortality for White Females

Table 3.3 displays trend data for white females from 1985 through 1994. The three highest age-adjusted death rates for white females were the same as for the total female population. Age-adjusted death rates for cancer for white females have decreased over the ten-year period, although the decrease was not statistically significant. The cancer death rate in 1985 was 119.2 and has been steadily decreasing since 1992. Significantly decreasing trends were also shown for heart disease, stroke, breast cancer, unintentional injuries, motor vehicle deaths, homicide and suicide. Cervical cancer deaths, while decreasing slightly in 1994, have maintained a stable trend over the ten-year period. AIDS deaths have shown a statistically significant increase.

Trends in Mortality for African American Females

African American females had the highest age-adjusted death rates for all of the selected causes of death except for motor vehicle deaths and suicides, compared with the female population as a whole. Trend data for African American females are shown in Table 3.4. Deaths due to all cancers, including breast, lung and cervical, were higher for African American females than for any other race/ethnic group examined. The age-adjusted cancer death rate for African American females was 141.1 in 1985 and even though the rate decreased to 137.8 in 1994, the decrease was not statistically significant.

Lung cancer death rates are almost three times higher for both African American and white females when compared with Hispanic and Asian/Other females and almost twice as high for breast cancer death rates. Deaths due to diabetes for African American females is over twice as high as any other race/ethnic group. The age-adjusted death rate for diabetes was 88.1 per 100,000 African American females compared with 30.8 for white, 48.4 for Hispanic and 30.8 for Asian/Other women.

African American females had the highest age-adjusted death rate for homicides, 13.6 per 100,000 African American females in 1994. The homicide rate has fluctuated over the ten-year period and no significant trend was found. However, the age-adjusted homicide rate for African American females was over three times higher than that of any other race/ethnic group in 1994. In addition, the age-adjusted death rate for AIDS for African American females (14.5 per 100,000 African American females) was over seven times higher than for any other race/ethnic group.

Trends in Mortality for Hispanic Females

While the rank order of age-adjusted mortality rates for Hispanic females were the same as white and African American females, the mortality rates were considerably lower. Table 3.5 displays trend data for Hispanic females. The age-adjusted cancer death rate for Hispanic females in 1994 was about half as high as for African American and white females. Hispanic females had the lowest age-adjusted cancer death rate (61.0) compared with the remaining race/ethnic groups: 137.8 for African American females, 115.0 for white females and 71.0 for Asian/Other females. Hispanic females were the only group in which the age-adjusted death rate for breast cancer was higher than for lung cancer. The death rate for breast cancer in 1994 was 11.8 per 100,000 Hispanic females and 7.3 for lung cancer. None of the trends for all cancer, breast, lung or cervical cancer were statistically significant for Hispanic females.

The second-highest age-adjusted death rate for Hispanic females was for heart disease. In 1985, the death rate was 67.9 and by 1994 the rate had decreased to 53.3, a trend that was statistically significant. Among Hispanic females, age-adjusted death rates for both diabetes and AIDS were the second-highest (following African American females) of all the race/ethnic groups examined. Diabetes death rates showed no significant trend, remaining fairly stable over the ten-year period. However, deaths due to AIDS have increased significantly since 1985. Two other causes of death showed statistically significant trends: stroke, decreasing from 21.3 in 1985 to 17.0 in 1994, and suicides, decreasing from 1.8 in 1985 to 1.3 in 1994.

Trends in Mortality for Asian/Other Females

As shown in Table 3.6, the highest age-adjusted death rate for Asian/Other females was also for cancer. While the rate of 71.0 per 100,000 Asian/Other females was considerably lower than the corresponding rate for African American or white females, it was higher than the rate for Hispanic females (61.0). However, Asian/Other females were the only group for which cancer has been increasing, a trend that was statistically significant. Although death rates for both breast and lung cancer increased slightly over the ten-year period, the trends were not significant. Asian/Other females were the only group in which death rates for both breast and lung cancer were almost identical (11.4 for breast and 11.2 for lung cancer).

Asian/Other females had the lowest age-adjusted death rate for heart disease when compared with the other race/ethnic groups. The rate remained fairly stable over the ten-year period with no significant trend. In 1985 the age-adjusted death rate was 48.6 and had decreased slightly by 1994 to 47.3. The third-highest death rate for Asian/Other females was also diabetes. In 1985, the death rate for diabetes was 22.8 and by 1994 the rate had increased significantly to 30.8. White and Asian/Other females both have the lowest diabetes age-adjusted death rates in 1994, with 30.8 each. While the trend for diabetes deaths has increased for all race/ethnic groups, the increasing trend was statistically significant for only Asian/Other females. Asian/Other females had the second-highest rate for suicide deaths (4.0 per 100,000 Asian/Other females) following behind the suicide death rate for White females at 6.2.

Age-adjusted death rates for stroke (24.2) were higher for Asian/Other females when compared with the other race/ethnic groups, except for African American females (45.7). The death rate due to AIDS was lowest for Asian/Other females, with an age-adjusted death rate of 0.9 per 100,000.

Leading Causes of Death by Age

The age-specific death numbers and mortality rates (deaths per 100,000 population in each age group) for 1994 are shown in Table 3.7, for males and females. At each age, the male mortality rate was higher than the corresponding female rate. The difference was greatest for ages 15-34 years and smallest for infants and persons 85+ years. (For further detail, please see Appendix B.)

Among females, the mortality rate for African Americans was higher than for whites at all ages. As shown in Figure 3.1, the difference was greatest for ages 25-54 years and for babies under one year of age. There was virtually no African American-white difference by age 85 years. Among Hispanics and Asian/Others, the age-specific mortality rate was lower than that of whites at most ages. They were about equal to white mortality rates among children from birth to age four years (Hispanics only) and ages 20-24 years (both groups).

The five leading causes of death for all females combined in 1994 are shown in Table 3.8 ranked for each age group. Unintentional injuries were the leading cause of death from age one year to age 34. Sixty to 90 percent of these injuries were due to motor vehicle crashes. From age 35 to age 74, cancers were the leading cause of death. Within this age range, the leading type of cancer was breast cancer up to age 64 years, lung cancer at ages 65-84, and colorectal cancer thereafter. From age 75 years onward, the leading cause of death was heart disease. For infants (under age one) the leading cause of death was perinatal conditions.

The second leading cause of death was congenital anomalies up to age four years, cancer (mostly leukemia) up to age 14, homicide up to age 24, breast cancer up to age 44, unintentional injuries up to age 44, heart disease up to age 74, then unintentional injuries and cerebrovascular diseases. The third, fourth and fifth leading causes are shown in Table 3.8.

In Table 3.9 are shown the age-specific mortality rates associated with these leading causes of death at each age level. Homicide, suicide and AIDS were among the leading causes of death for teen and young adults (up to age 44). The homicide mortality rate was highest at ages 15-34 years (5.5-6.0 per 100,000). As shown in Table 3.10, this rate was three to four times higher among young African American women than among women of other race/ethnic groups.

The mortality rate (deaths per 100,000 females) for heart disease increased steadily from age 20-24 (2.0) to age 85+ (6,073.6). It was higher among African American women at all ages (Table 3.11). Cancer-related mortality also increased steadily from age 1-4 years (2.1 per 100,000) to age 85+ years (1,240.7). Among causes of cancer, breast cancer mortality increased from 2.3 per 100,000 at age 25-34 years to 183.4 per 100,000 for women age 85 and older. Lung cancer mortality peaked at age 75-84 (255.2 per 100,000) and then declined among women age 85 and older (179.1 per 100,000). As shown in Table 3.12, breast cancer mortality rates were higher for African American women up to age 74 years and higher among white women at ages 75 and older.

Among the elderly, chronic obstructive pulmonary disease (COPD), diabetes, and hereditary/degenerative diseases emerged as leading causes of death. COPD became a leading cause of death at age 55-64 (40.3 per 100,000) and the associated mortality rate increased with age, up to 85+ years (468.2 per 100,000). As shown in Table 3.13, white women had the highest COPD mortality rate at all ages. Falls became an important cause of death in women over age

85, with the highest rates found in white women (See Table 3.14). Pneumonia and influenza, which were among the leading causes of death for infants, reemerged among the top five causes of death for women ages 65 and older. As shown in Table 3.15, the pneumonia and influenza mortality rates were higher among white and African American women, compared with Hispanic and Asian/Other women.

Summary of Leading Causes of Death

The ten leading causes of death among females in California in 1994 were heart disease, cancers, stroke, COPD, pneumonia/influenza, unintentional injuries, diabetes, hereditary/degenerative diseases, atherosclerosis, and cirrhosis of the liver. The three diseases related to the cardiovascular system (heart disease, stroke and atherosclerosis) together accounted for about 43 percent of all female deaths. There was a significant downward trend in cardiovascular disease during the past decade. Decreases have also been shown for cancer among all race/ethnic groups except Asian/Other females, for whom there was a statistically significant increase.

Mortality rates for breast cancer were twice as high among white and African American females when compared to Hispanic and Asian/Other females. The same was true for lung cancer deaths.

Mortality rates for diabetes have increased during the past decade for all race/ethnic groups. However, the risk of mortality due to diabetes was approximately twice as high among African American women compared with other groups. It was also elevated for Hispanic women.

African American women had elevated mortality rates for homicide compared with other race/ethnic groups, while white women were at greater risk for death due to suicide.

There was a significant upward trend in AIDS-related deaths during this period. The risk was about seven times higher among African American women than among any other group.

SECTION 4

HOSPITALIZATIONS

This section of the report analyzes data from the Office of Statewide Health Planning and Development (OSHPD) Hospital Patient Discharge Files. The discharge record is the record of a hospitalization episode. The OSHPD collects this information from acute care hospitals throughout California. Data for this report are for hospital discharges which occurred in 1993. In this report, hospitalizations and hospital discharges are interchangeable.

In the following tables the number of hospital discharges, not population rates, are the basis for analysis because the Hospital Patient Discharge Files consist of numbers of hospital discharges, not numbers of individuals who are discharged from the hospital. Some individuals have more that one hospitalization during a given year.

An analysis of the number of hospital discharges (including discharges related to pregnancy and discharges of healthy newborns) shows that about three fourths of hospital patients had only one hospitalization during 1993, 14 percent had two, and 8 percent had three or more. In order to examine the reasons why women are hospitalized, this analysis is based on the total number of hospitalizations. Records for multiple visits by the same patient are not excluded.

As shown in Table 4.1, there were 3,664,629 hospitalizations in 1993 of which 2,188,173 (59.7 percent) were for females and 1,476,322 (40.3 percent) were for males. The ratio of all female hospitalizations to all male hospitalizations is 1.5, indicating that females were hospitalized about one and one-half times more often than males. However, when the 635,763 hospitalizations for pregnancy related conditions and the 572,594 healthy newborns who did not require a hospital stay for birth complications were excluded, the ratio dropped to 1.1, making the number of hospitalizations almost equal between the sexes.

Research into women's health has traditionally focused on pregnancy and childbirth. According to the discharge data, about one-third (33.3 percent) of hospitalizations for all females were for pregnancy and childbirth. Table 4.2 displays the number and percent of pregnancy-related hospitalizations for females by race/ethnicity. The percent of hospitalizations for pregnancy and childbirth varied dramatically among race/ethnic groups; women identified as "Other Race" had the highest percent (64.7) and Hispanic females had the second-highest percent (46.3). Among the remaining race/ethnic groups, the percent of hospitalizations that were for pregnancy was 38.9 percent for Asian/Pacific Islander women, 31.2 percent for Native American women, and 29.7 percent for African American women. White females had the lowest percentage of hospitalizations for pregnancy/childbirth (20.7 percent).

Length of Stay

Data for the average length of hospital stay per admission (ALOS), expressed as number of days, are displayed in Table 4.3. The ALOS for all hospitalizations, both male and female, during 1993 was 5.9 days. Examining the length of stay data by gender shows that the ALOS for females for all hospitalizations was 5.3 days compared to 6.9 days for males. When the 635,763 hospitalizations for females for pregnancy/childbirth were excluded, the ALOS for females became identical to that of males (i.e., 6.9 days).

Examination of ALOS for females by race/ethnicity shows that the highest ALOS for hospitalizations including pregnancy/childbirth was for white females at 6.0 followed by African American females at 5.8. The lowest ALOS was for Hispanic females, at 3.6. However, when data for pregnancy/childbirth were excluded, the highest ALOS was for Native American females (7.4) followed by African American females (7.2) and white females (7.1). The lowest ALOS was again for Hispanic females, at 5.8 days.

The remaining portion of this section on hospitalizations focuses on data for hospitalizations for medical reasons other than pregnancy/childbirth and discharges of healthy newborns, but including records of newborns admitted to the hospital because of birth-related complications. The total number of hospitalizations included in this analysis was 2,456,272.

Causes of Hospitalization

Table 4.4 shows the ratio of female to male hospitalization for selected causes using codes from

the International Classification of Diseases, Revision 9 (ICD-9). This ratio was highest for eating disorders, bulimia and anorexia. Although the total number of hospitalizations for these disorders was small, females were hospitalized 15 and 17 times more often than males. A second cause of hospitalization for which the female-male ratio was significantly greater than 1.0 was hospitalization for kidney disease, for which women were hospitalized four times as often as males. In 1993, there were 10,123 hospital episodes for kidney disease among females compared with 2,306 for males. Other causes for which females were hospitalized more often than males were osteoporosis and arthritis; females were hospitalized over one and one-half times as often for each of these. Conversely, causes for which females were hospitalized less often than males included AIDS, (about one tenth as often), cirrhosis, alcohol and drug psychosis and dependency (both about one-half as often).

Table 4.5 shows the number of female hospitalizations by race/ethnicity for selected causes. Table 4.6 shows the percent of hospitalizations for each of these causes by race/ethnicity. The most frequent cause of hospitalization for all women and for each race/ethnic group was heart disease, accounting for 140,172 episodes in 1993. Cancer was the second leading cause of hospitalization for white and Asian/Pacific Islander women, but it was the third most frequent cause for Hispanic and African American women and the fifth most frequent for Native American women. The third most frequent cause of hospitalization for all females was bone fractures. It was the third highest for white and Native American females, but the fourth for Asian/Pacific Islander women, and fifth for Hispanic and African American women. Hospitalization for pneumonia/influenza was the fourth most frequent cause of hospitalization for all females. It was the fourth most frequent among both white and African American females, but it was second most frequent for Hispanic and Native American females and third for Asian/Pacific Islander females.

Table 4.7 shows the race/ethnic distribution for these selected causes of hospitalization. White women made up less than 60 percent of the female population, but received 72.6 percent of all hospitalizations. They were over-represented in hospitalizations for bulimia (90.6 percent), anorexia (85.4 percent), Alzheimer's' Disease and other forms of dementia (82.1 percent), and alcohol-related problems (87.1 percent). They were under-represented in hospitalizations for AIDS (36.4 percent). African American women made up 7 percent of the population. They accounted for 8.8 percent of all hospitalizations, 31.1 percent of AIDS-related hospitalizations, and 17.6 percent of diabetes-related hospitalizations. African Americans were under-represented in hospitalizations for anorexia and bulimia (2.4 and 2.9 percent) and fractures (4.8 percent). Hispanic women made up 25 percent of the female population. They were under-represented in nearly all causes of hospitalization. Asian women made up about 9 percent of the population, but received 19 percent of hospitalizations for cirrhosis of the liver.

Multiple Causes for Hospitalizations

There are several diseases affecting women that are not usually coded as the primary cause for hospitalization, including: diabetes, arthritis, kidney disease and osteoporosis. The discharge files contain not only the primary cause for hospitalization, but four additional contributing causes. Table 4.8 displays the number of hospitalizations for diabetes, kidney disease, osteoporosis, and arthritis in 1993, comparing the number of admissions for which the disorder was reported as the principal cause with the number for which the disorder was included among the four contributing causes of hospitalization.

The disease listed most frequently among the contributing causes of hospitalization was diabetes. There were 17,295 hospitalizations in 1993 for which diabetes was the principal cause, but 146,249 for which diabetes was reported among the contributing causes. This is an eight-fold increase. The number of hospitalizations for kidney disease almost doubled in number when four additional contributing causes were included, increasing from 10,123 to 17,822. There were 8,646 admissions with osteoporosis listed as the primary cause of hospitalization in 1993, but this increased three-fold, to a total of 26,783, by including cases for which it was listed as a contributory cause. Similarly, the number of admissions for arthritis more than doubled, increasing from 22,582 to 58,372 admissions, when cases with arthritis listed as a contributing cause were included.

Similar proportional increases in admissions for these four conditions were found among females of all race/ethnic groups. For diabetes, Asian/Pacific Islander women had the largest increase in hospitalizations when cases listing diabetes as a contributing cause were included (over 11 times greater). The smallest increase was seen for African American females (a six-fold increase). Kidney disease showed the smallest variation among race/ethnic groups with Hispanic females having the largest increase, from 3,076 as a primary cause and increasing to 6,261 when four additional contributing causes were included for hospitalization. The smallest increase was seen among Native American females. The number of 1993 hospitalizations for osteoporosis was highest for white females and it increased more than three-fold, from 6,957 to 22,321, by including cases where it was reported as a contributing cause. The number of osteoporosis hospitalizations also increased among Asian/Pacific Islander women from 283 to 856. For arthritis, the number of hospitalizations increased most among African American females, rising from 1,378 to 4,652. Among Asian/Pacific Islander women, the number of arthritis hospitalizations increased from 531 to 1,746.

Hospital Discharges for External Causes of Injury (E-Codes)

Hospital record coding for the cause of hospitalization has traditionally used the International Classification of Diseases, 9th Revision, for Clinical Medicine (ICD-9-CM codes). However, in 1991 the ICD-9 E-Series was added to the discharge record to identify the external causes of injury. The E-Codes are entered in a separate location from the standard ICD-9 codes in the discharge file.

In 1993, 12.1 percent of all California hospital discharges were for injury, based on the ICD-9 external causes of injury (E-Codes). As shown in Table 4.9, the ratio of female to male hospital discharge for injuries due to external causes was nearly equal (0.95). Of the total of 318,420 hospital discharges for external causes, 154,953 were for females and 163,457 were for males. Males and females were hospitalized about the same number of times for poisonings, as well as complications due to surgical procedures. Women were hospitalized only half as often for motor vehicle crashes, other transport accidents, fires, drowning, and other accidents. For homicide, females were hospitalized only one-fifth as often as males. However, females accounted for 40-50 percent more hospitalizations than did males for falls, for suicides, and for adverse reactions to drugs in therapeutic use.

The number of hospital discharges for external causes, stratified by race/ethnicity, is shown in Table 4.10 and the percentages are shown in Table 4.11. In 1993, the single largest cause of hospitalization for women of all race/ethnic groups was falls, accounting for 51,801

hospitalizations. The second most frequent cause was adverse effects of prescribed drugs (46,579) and the third most frequent cause was motor vehicle crashes (14,015).

Falls constituted the largest percent of hospitalizations for white females (37.6 percent) and Native American females (27.0 percent), but adverse effects of drugs in therapeutic use was highest for African American (32.0 percent) and Asian/Pacific Islander (32.5 percent) females. Hispanic females had almost the same percent for both causes (24.2 and 24.5 percent). For the second-largest external cause of injury, those two causes were in reverse order: adverse effects of drugs in therapeutic use was the second leading cause of hospitalization for white females (31.9 percent) and Native American females (22.4 percent), while falls was second for African American (18.2 percent) and Asian/Pacific Islander (26.1 percent) females. The third largest percent of E-Code hospitalizations was motor vehicle crashes, for all race/ethnic categories. These three categories combined accounted for almost three-fourths of all hospitalizations for external causes (72.5 percent).

Hospital Discharges for Cancer

Hospital discharges for cancer, for all causes and for specific sites, for males and females are shown in Table 4.12. The total number of hospital discharges for cancer during 1993 were 131,732, with females having a slightly higher number (68,292) compared with males (63,440). For females the greatest number of cancer-related hospital discharges was for breast cancer (13,910), while for males the greatest number was for cancer of the male genital organs (12,899). The second and third leading causes of cancer-related hospitalization for both males and females, were colorectal and lung cancer.

Females were hospitalized half as often as males for cancer of the lip, pharynx and oral cavity; respiratory organs; and bladder and urinary tract. On the other hand, females were hospitalized about one-third more often for Hodgkin's lymphoma and other forms of lymphatic cancer.

Tables 4.13 and 4.14 display the number and percent distribution of female cancer hospitalizations by race/ethnicity. As seen in Table 4.13, there are noticeable differences among the race/ethnic groups for cancer hospitalizations. Women of all race/ethnic groups except Native Americans were hospitalized most frequently for breast cancer; Native American women were hospitalized most frequently for colorectal cancer. For white, African American and Asian/Pacific Islander women, the second highest percent of hospitalizations were for colorectal cancer, while for Hispanic and Native American females it was cancer of the cervix or uterus. The third most frequent cause of hospitalizations among females was lung cancer among whites and African Americans, colorectal cancer for Hispanics, cancer of the cervix and uterus for Asian/Pacific Islanders and breast cancer among Native Americans.

The percent distributions displayed in Table 4.14 show some interesting comparisons among females in different race/ethnic groups. The percent of hospitalizations for lung cancer were highest for white women (9.7 percent), which was only slightly higher than for African American women (9.0 percent), but almost three times higher than for Hispanic women (3.7 percent). Hispanic and Native American women had a higher percent of hospitalizations for cancer of the cervix when compared with the other race/ethnic groups, (15.1 percent and 13.0 percent respectively). Hospitalizations for colorectal cancer were highest for Native American women (15.1 percent), African American women (11.1 percent) and white women (10.7

percent).

Summary of Hospital Discharges

The leading cause of hospitalization for women in California was pregnancy and childbirth, accounting for about one third of hospital admissions. Excluding hospitalizations for pregnancy and childbirth, the frequency and causes of hospitalization were approximately the same for males and females and were consistent with the leading causes of death. The top five causes of hospitalization among women were: heart disease, cancers, pneumonia/influenza, fractures, and COPD. These were followed by: stroke, arthritis, diabetes, acute respiratory disease and ulcers. Women were more likely than men to be hospitalized for injuries due to adverse medication reactions, falls, and suicide. Men were more likely to be admitted for homicide, motor vehicle crashes and other transport-related injuries, burns from fire, and drowning.

Almost three fourths (73.9 percent) of all hospitalizations for external causes in females were accounted for by only three causes: falls, adverse effects of drugs in therapeutic use and motor vehicle crashes. This was true for all race/ethnic groups.

SECTION 5

NATALITY

Birth Rates

Birth rates for California women are shown in Table 5.1 for the years 1985, and 1990 through 1993, stratified by race/ethnicity and age. Overall, the birth rate (number of births per 1,000 women of the specified age group) increased from 74.6 to 84.6 between 1985 to 1990, then decreased to 79.4 by 1993. For females younger than age 15, the birth rate was lower than that of women between ages 15 and 44 years. Nevertheless, it steadily increased from 1.0 in 1985 to 1.5 in 1993. For females aged 15-19 years, the birth rate increased from 52.5 in 1985 to 72.2 in 1991, then decreased to 70.6. Birth rates for females ages 40-44 steadily increased, from 6.1 in 1985 to 9.7 in 1993.

Birth rates differed substantially among race/ethnic groups. In 1993, Hispanic females had the highest birth rate (127.3 per 1,000 women of child bearing age), followed by African American women (79.4 per 1,000), Asian/Other women (70.9 per 1,000), and white women (55.5 per 1,000). This high birth rate for Hispanic females contributes significantly to the overall increase in the proportion of the population that is Hispanic in California.

The birth rate decreased between 1992 and 1993 for white, African American and Asian/Other females, but it increased among Hispanic females during this period. Among young women less than 15 years old, birth rates for young African American females (2.9 per 1,000) and Hispanic females (2.7) were higher than corresponding birth rates for Asian/Other females (0.9) and white

females (0.4) in that same age group. This was the only age group in which the Hispanic birth rate was not the highest. Older mothers were more apt to be Asian/Other or Hispanic and less likely to be African American or white.

For this section on natality, data from the birth certificate are used. In California, data on race/ethnicity are collected for 21 specific subgroups. Along with the major four groups (white, African American, Hispanic, and Asian/Other) information for four additional subgroups within the Hispanics, 10 additional subgroups within the Asians and four additional subgroups within the Pacific Islanders are also collected. Because the natality data are based on the number of live births rather than the population, as the mortality rates are calculated, we have chosen to present natality data for all of the subgroups that are included on the birth certificate. Even though these same 21 race/ethnic groups are also collected on the death certificate, no population estimates for these groups are available and therefore, rates cannot be calculated.

Low Birthweight Infants

Birth of an infant weighing less than 2500 grams (i.e., of a low birthweight infant) is an indicator of poor maternal nutrition and poor access to medical care and has been associated with poorer birth outcomes. The percent of infants born in California weighing less than 2500 grams is shown in Table 5.2. For all infants born in 1994 in California, 6.2 percent were low birthweight.

The percent of low birthweight infants varied among race/ethnic groups. African American mothers had the highest percent of low birthweight babies (12.6 percent), followed by Cambodian mothers (9.7 percent) and Asian Indian mothers (9.1). White and Hispanic mothers had a lower percent of low birthweight babies (5.5 percent for each). Among the Hispanic sub-populations, Puerto Rican mothers had the highest percent of low birthweight infants (7.5. percent). Among Asian/Pacific Islander mothers there was a wide range in the percent of low birthweight infants, from 3.8 percent among Samoan mothers to a high of 9.7 percent of births among Cambodian mothers.

Age of Mother

In Table 5.3 are shown the percent of births to mothers under age 18, ages 18 to 39, and ages 40 and over. The two age groups at greatest risk for not having healthy newborns are the very young mothers (age less than 18) and the older mothers (age 40 and over). Teenage mothers have a higher risk of negative birth outcomes because they tend to have low income (2) and the physiological characteristics of young women (3). Births to mothers who were younger than age 18 comprised 4.9 percent of all live births in California in 1994, a total of 28,065 births.

There was a wide variation among race/ethnic groups in the percent of births to mothers under age 18. The percent of births to mothers less than 18 years of age was 8.1 among Native Americans, 7.8 among African Americans and 2.7 among whites.

Among Hispanic females, 6.7 percent of the births were to females less than 18 years of age. Two of the four sub-populations had a higher percent, Puerto Rican and Mexican mothers at 7.5 and 7.2 percent respectively; and two groups had lower percentages, "Other Hispanic" mothers at 5.0 percent and Cuban mothers at 3.2 percent.

Among Asians, there was a wide range in the percent of births to teenage mothers. The highest

was for Laotian mothers (9.5 percent) followed by Thai mothers (8.0 percent) while the lowest were among Chinese and Korean mothers (3.0 percent each). The percent of births to teenage mothers among Pacific Islanders varied from a high of 6.7 for Guamanians to a low of 2.4 for Other Pacific Islander mothers. Over all, 3.6 percent of the births to Pacific Islanders were to mothers less than age 18 years.

Education of Mother

The educational level of women giving birth in 1994 is shown in Table 5.4. Over one-third of the mothers had less than a high school education. This percent varied from a high of 62.8 for Cambodian and Laotian mothers to a low of 2.0 percent for Japanese mothers.

Of the white mothers, 11.1 percent did not have a high school education, while 56.1 percent were college graduates. For African American mothers, the percent with less than a high school education was higher than for whites, 20.6 percent, and over one-third were college graduates (36.9 percent). Data for Native American mothers showed that 32.0 percent had less than a high school education and approximately one-fourth (26.3 percent) had a college education.

Hispanics, as a group, had the highest percent of mothers without a high school education, (58.7 percent) and they also had the smallest percent of mothers with a college education (14.7 percent). Within the Hispanic population, Mexican mothers had an even higher percent with less than a high school education (61.0 percent) and a smaller percent (13.0 percent) with college degrees. Mothers identified as Other Hispanic had the second-highest percent with less than a high school education (47.8 percent) and second-lowest percent with a college degree (22.7 percent).

In the Asian population as a whole, 20.0 percent of mothers had less than a high school education and, in contrast, over half (56.7 percent) of the Asian mothers had a college degree. As with the other indicators examined in this report, the widest variation among sub-populations is among the Asians. The percent of mothers with less than a high school education ranged from 2.0 percent for Japanese mothers to 62.8 percent for Cambodian and Laotian mothers. There were more Asian mothers with a college degree than for other race/ethnic groups: this percentage was highest among Japanese mothers (80.3 percent), followed by Filipino mothers (70.7 percent), Korean mothers (69.9 percent), Asian Indian mothers (69.0 percent) and Chinese mothers (63.9 percent).

Pacific Islander mothers had the second lowest percent of births to mothers without a high school education (17.0 percent). Within the Pacific Islander group, the percent of births to mothers with less than a high school education were fairly similar: 13.1 percent of Hawaiian, 15.0 percent of Samoans, 18.5 percent of Other Islanders, and 23.8 percent of Guamanians. Hawaiian mothers had the largest percent with college degrees (42.6 percent).

Prenatal Care

Early initiation of prenatal care (i.e., care that begins in the first trimester of pregnancy) permits early identification of risks and appropriate interventions. Data on prenatal care are shown in Table 5.5.

In 1994, slightly more than three-fourths of all women who gave birth in California began

prenatal care in the first trimester (77.1 percent). There was wide variation among race/ethnic groups in the percent who received early prenatal care. The groups with the highest and the lowest percentages not receiving early care were both within the Asian/Pacific Islander subgroups: Japanese women had the highest percent receiving early care (90 percent) while the lowest percent was for Samoan women (51.5 percent).

Of the six major race/ethnic groups, Native American and Hispanic women had the lowest percent receiving early care, 66.2 and 70.5 respectively. African American women had 74.6 percent receiving early care, Asians 81.9 and whites, 85.2.

Hispanic women had the smallest variation among the subgroups, with Cuban women having the highest percent (88.1) and Mexican women with the lowest (69.6). The greatest variation was among Asian women: Japanese women had the highest percent (90.0) and Laotian women had the lowest (65.3). The Pacific Islander population had the lowest percentages of women receiving early care, varying from a high of 74.0 percent for Hawaiian women to a low of 51.5 for Samoan women.

Source of Payment for Child Birth

Data displaying the major source of funding for delivery are shown in Table 5.6. The largest single source of payment was Medi-Cal, accounting for 48.2 percent of all deliveries. Health Maintenance Organizations, such as Kaiser, were second, accounting for 26.2 percent, followed by private insurance, 19.8 percent.

Payment for delivery varied considerably among the race/ethnic groups. Hispanic women had 68.3 percent of births paid for by Medi-Cal. Within the Hispanic group, Mexican mothers had an almost identical percent paid for by Medi-Cal (69.4 percent). African American mothers had over half of their births funded by Medi-Cal (57.2 percent), while slightly less than half of the Pacific Islander women had births paid for by Medi-Cal (46.4 percent). Among white mothers, one fourth of births were paid for by Medi-Cal. The group with the highest percent of births paid for by Medi-Cal was Laotian women, with 76.9 percent. The group with the second-largest percent of births funded by Medi-Cal was Cambodian mothers (75.5 percent). Japanese mothers were least likely to have births paid by Medi-Cal (6.8 percent of births) and were most likely to have births paid by private insurance or HMO (84.4 percent of all births).

Self-pay constituted a small portion of all funding sources for births (2.8 percent). The two groups of mothers with the largest percent in this category were the Chinese (10.0 percent) and Korean (11.5 percent). "No Charge" deliveries accounted for less than one percent.

Cesarean Births

Table 5.7 shows data for 1994 for cesarean births in California. Cesarean rates have been decreasing the past few years, after climbing to a high of 23.5 percent in 1987. By 1994, the cesarean birth rate had decreased to 20.8. This rate varied among race/ethnic groups, however the variation among cesarean birth rates is less than the variation among other birth indicators shown in this report. The greatest percent of cesarean births was for mothers from Thailand (26.3) followed by Cuban mothers (25.1).

White, African American and Native American mothers had nearly the same percent of cesarean

births (22.1, 23.3, and 22.1 respectively). For all Hispanic mothers, the cesarean birth rate was 19.6. Among the Hispanic subgroups, the cesarean rate varied from a high of 25.1 percent for Cuban mothers to a low of 19.5 percent for Mexican mothers.

Asian mothers showed the greatest variation among subgroups, from a high of 26.3 for Thai mothers to a low of 8.0 for Laotian mothers. Among Pacific Islander mothers, Hawaiian and Guamanian mothers had 20 percent of their births by cesarean section and Samoan and Other Islanders each had 17 percent.

Maternal, Fetal, and Infant Mortality

Maternal mortality (the number of deaths of women due to complications of pregnancy, childbirth, and during the first six weeks following childbirth) has declined dramatically during the past fifty years in California. The maternal mortality rate in 1940 was 28.4 per 10,000 live births and fell in subsequent years to 16.3 per 10,000 live births in 1955, to 2.9 in 1960, to 2.1 in 1970, and to 1.1 in 1980. Between 1980 and 1993 it varied between 1.1 and 0.6 per 10,000 live births and was 1.0 in 1994. (Data not shown.)

Fetal mortality (the number of deaths of the unborn at 20 or more weeks of gestation) were 20.4 per 1,000 live births in 1940. The number fell to 12.9 per 1,000 live births in 1960, 8.9 in 1980, and 6.5 in 1990. In 1994, there were 5.6 fetal deaths per 1,000 live births. (Data not shown.)

Infant mortality (deaths of children under one year of age) also fell during this period, from 39.6 per 1,000 population in 1940, to 24.9 in 1950, 23.3 in 1960, 17.2 in 1970, 11.1 in 1980, and 7.9 per 1,000 population in 1990. In 1994, there were 7.0 infant deaths per 1,000 population. (Data not shown.)

Summary of Birth Data

The birth rate in California increased between 1985 and 1993 for Hispanic and African American women, but declined for Asian/Other and white women. The 1993 birth rate of Hispanic women was more than double that of white women and about two thirds higher than that of African American and Asian/Other women. About five percent of all births were to teens under age 18 years. This percent reached 7 to 9 percent among African Americans, Native Americans, some Hispanic groups (Puerto Ricans and Mexicans) and among some Southeast Asian Groups (Thai and Laotians).

Among women who gave birth in California in 1994, about 35 percent had less than a high school education. However, this percent was even higher among Hispanics and Southeast Asian women.

Among women of childbearing age in California, about 30 percent had incomes in the poverty range (under 200 percent of FPL). However, approximately 50 percent of births in California were paid for through the public sector in 1993. This percentage was even higher among Cambodian and Laotian, Hispanic, Native American, and African American women. It was lower among Japanese, white, Chinese, Filipino, and Asian Indian women.

Overall, about 20 percent of pregnant women in California started prenatal care late (i.e., after the first trimester of pregnancy). This percentage was higher among Laotians, Cambodians,

Samoans, Guamanians, and African Americans.

The percent of babies born with low birth weight was twice as high among African American women than among any of the other major race/ethnic groups. However, women of several subgroups also had elevated risk of low birthweight babies, including Cambodians, Laotians, and Asian Indians.

Between 1940 and 1994, the maternal death rate fell from 28.4 to 7.0 per 10,000 live births, the fetal death rate fell from 20.4 to 5.8 per 1,000 live births, and the infant mortality rate fell from 39.6 to 7.0 per 1,000 population.

SECTION 6

TUBERCULOSIS, SEXUALLY TRANSMITTED DISEASES, AND ACQUIRED IMMUNE DEFICIENCY SYNDROME

Please refer to Appendix C for the frequencies and rates

that were used in preparation of the charts presented in this section.

Incidence of TB, STDs, and AIDS: Males and Females

Trends in the incidence of tuberculosis, gonorrhea, syphilis, chlamydia, and AIDS in males and females, from 1985 to 1994, are shown graphically in Figure 6.1. Figure 6.2 presents the same data with an expansion of the lower end of the scale to clarify the trends associated with TB, syphilis, and AIDS.

As shown in Table 6.1, the reported incidence of tuberculosis (number of cases per 100,000 population) increased significantly among both males and females in California during the period 1985 to 1994. There appeared to be a decreasing trend after 1992. In 1992, TB incidence peaked at 21.6 per 100,000 males, compared with 12.8 per 100,000 females. By 1994, these rates had dropped to 18.6 and 11.3 in males and females respectively.

The reported incidence of gonorrhea in males in 1985 was 581.2 per 100,000 and 279.0 per 100,000 females. Between 1985 and 1994, it declined significantly for both men and women, falling to 93.9 and 72.3 respectively. Males were twice as likely to have been reported as having gonorrhea in 1985 but were only 30 percent more likely by 1994.

The reported incidence of primary and secondary syphilis (reported cases per 100,000) in 1985 was 25.9 in males and 6.6 in females. By 1988 it had risen to 29.4 per 100,000 males and nearly tripled in females to 17.0 per 100,000. During the following years, as a result of intervention by

state and county health departments, it declined to the very low levels reported in 1994 (3.1 and 1.9 per 100,000 in males and females respectively) and the ratio of male to female cases remained between 1.4 and 1.8. The decline between 1985 and 1994 was statistically significant for both males and females.

The reported incidence of chlamydia was 71.3 per 100,000 for males in 1990 and it declined to 69.8 per 100,000 by 1994. In females, the reported incidence was more than four times higher than in males, rising from 325.9 to 347.9 per 100,000 during that period. Thus, chlamydia was the only sexually transmitted disease for which female incidence exceeded that of males. The most common severe complication of chlamydia is Pelvic Inflammatory Disease (4), which may lead to infertility and ectopic pregnancy because of scarring of the fallopian tubes. Infection with chlamydia is most common among women early in their childbearing years.

It is important to note that the incidence of chlamydia reported here is considered to be an undercount, that approximately three quarters of the female chlamydia infections are not diagnosed and/or not reported. For example, CDC estimated that the true number of chlamydia infections in women, in California, in 1994, was 294,076 (5) while only 56,418 (22.7 percent of that number) were reported. Despite the likely undercounting, the incidence of chlamydia was still four times greater than the incidence of gonorrhea in females as of 1994.

There was an non-significant upward trend in reported chlamydia incidence between 1990 and 1994. However, required reporting of chlamydia began only in 1990, so it is not clear whether the small annual increase in incidence was due to increased awareness of the new reporting law or due to increased occurrence of disease.

The reported incidence of new AIDS cases in males was 19.1 per 100,000 in 1985 and by 1992 it quadrupled to 75.6 per 100,000. From 1992 to 1994 the reported incidence appeared to decline by about 28 percent, to 54.6 per 100,000. In females, AIDS incidence in 1985 was 0.5 per 100,000. It increased twelve-fold to 6.1 per 100,000 in 1993. From 1993 to 1994 it appeared to plateau or even decrease slightly (to 5.5 per 100,000). Overall, there was a significant upward trend in AIDS incidence for both males and females between 1985 and 1994.

The apparent "peaks" in AIDS incidence in males in 1992 and in females in 1993 may be partly an artifact caused by the expanded AIDS case definition introduced in California on January 1, 1993. The expanded case definition resulted in identification of AIDS cases earlier in the course of disease progression and led to increases in the proportion of cases reported for women, intravenous drug users, and African Americans. However, the data also suggest that AIDS incidence did in fact peak or plateau in 1992-1993, although this cannot not be confirmed without additional years of observation (6).

Incidence of TB, the STDs, and AIDS in Females

Tuberculosis

There was a statistically significant upward trend in reported TB incidence for females in California between 1985 and 1994. The trend was significant for all age groups. However, after stratifying by race/ethnicity, the trend was significant only for African American women.

As shown in Figure 6.3, the reported incidence of tuberculosis among women was highest among

Asian/Others, varying between 32.6 and 45.3 per 100,000 during the years 1985 and 1994. It was about half as high among Hispanic and African American women (varying between 11.0 and 20.0 per 100,000) and lowest among white women (varying between 2.3 and 3.1 per 100,000). During this period, incidence declined to a low point in 1988 among Asian/Others, increased to a peak in 1991-92, then began to decline again. A similar trend was observable among Hispanic women. However, among African American women there was a steady and statistically significant increase throughout this period, from 11.0 to 15.5 per 100,000.

The age group with the highest reported TB incidence was women ages 65 years and older, among whom incidence varied between 15.4 and 19.6 per 100,000, as shown in Figure 6.4. The lowest level was found among school-aged children (incidence varied between 2.6 and 5.3 per 100,000). There was little difference among the remaining age groups (ages 0-4 years and ages 15-64 years), among whom TB incidence varied between 7.2 and 13.7 per 100,000.

Gonorrhea

There was a statistically significant downward trend in reported gonorrhea incidence for females in California between 1985 and 1994. The trend was significant in all age groups and for women of all race/ethnic groups.

As shown in Figure 6.5, the reported incidence of gonorrhea among African American women declined sharply, from 1,623.4 to 386.8 per 100,000 between 1985 and 1994. However, it remained ten times higher than that of the other race/ethnic groups. Among Hispanics, whites, and Asian/Others it declined from 162.6, 91.7, and 31.7 per 100,000 in 1985 to 32.4, 16.8, and 9.2 per 100,000 in 1994 for these three groups respectively.

As shown in Figure 6.6, reported gonorrhea incidence remained highest among teens and young adults. It fell from 1,106.2 to 365.9 per 100,000 among youths aged 15-24 years. Among young women ages 25-34 it fell from 437.2 to 100.3 per 100,000. Among infants and preschoolers (ages 0-4 years), the incidence of gonorrhea declined from 17.9 to 1.7 per 100,000.

The women most at risk for gonorrhea during the past decade were young African American women. In 1985, gonorrhea incidence per 100,000 African American women was 5,867 for ages 15-24 years and was 2,203 for ages 25-34 years. By 1994 the reported incidence of gonorrhea per 100,000 had dropped to 102 among the younger women, but only to 863 in the second group. (Data not shown).

Primary and Secondary Syphilis

Between 1985 and 1994 there was an overall statistically significant downward trend in reported syphilis incidence for females in California, in all race/ethnic groups, in spite of an upward trend during the early part of this period (1985-1988). The downward trend between 1985 and 1994 was significant only for ages 15-24 years and 55-64 years.

As shown in Figure 6.7 this trend was clearly seen among African American women, among whom the incidence of syphilis first increased more than four-fold between 1985 and 1988, from 36.6 to 158.9 per 100,000, then declined to 16.2 per 100,000 in 1994. Among Hispanics, it increased from 8.8 to 15.3 per 100,000 then declined to 1.3. Among whites, it increased from 2.4 to 4.5 per 100,000 then declined to 0.6 per 100,000. Among Asian/Others, it fell from 1.5 to 0.2

per 100,000.

The age groups most at risk for syphilis were the same as those most at risk for gonorrhea, i.e., young women ages 15-24 and 25-34 years. As shown in Figure 6.8, incidence in these two groups rose from 1985 levels of 19.8 and 13.6 per 100,000 respectively, peaked in 1988/89 at 48.5 and 40.6 per 100,000 respectively, and then fell to nearly equal levels of 4.1-4.7 per 100,000 in 1994.

The women with the highest reported syphilis incidence were young African American women ages 15-24 and ages 25-34, whose syphilis incidence in 1988 reached 430 and 333 per 100,000 respectively. Due to intensive surveillance and control efforts by county health departments and the state STD Control Branch (DHS), the incidence of syphilis was brought down to 1 and 12 per 100,000 respectively by 1994 in these two age groups. As with gonorrhea, at the end of the period the incidence of syphilis in the younger of these two age groups was lower than that of the older group.

Chlamydia

The reported incidence of female chlamydia, between 1990 and 1994, is shown in Figure 6.9 stratified by race/ethnicity and in Figure 6.10 stratified by age. The reported incidence of chlamydia was over four times higher than the incidence of gonorrhea.

In 1990, the highest chlamydia incidence (cases per 100,000) was found among African American women (383.1), followed by Hispanics (202.5), whites (94.0) and Asian/Others (63.5). By 1994, the reported incidence had risen for African Americans, Hispanics, and Asian/Others (rising to 478.8, 276.0, and 73.3 per 100,000), but was lower in whites (fell to 80.6 per 100,000). As noted above, these rates probably underestimate the true incidence of chlamydia due to customary underdiagnosis and underreporting, plus recency of the requirement that cases be reported.

As with gonorrhea and syphilis, the incidence of chlamydia was highest among young adult women. In 1994, chlamydia incidence per 100,000 for ages 15-24 and 25-34 was 1,740.5 and 427.9 respectively, compared with girls ages 1-4 and 5-14 years (13.5 and 59.2 respectively) and older women ages 45-54, 55-64, and 65+ (32.0, 9.0, and 5.5 respectively).

Acquired Immune Deficiency Syndrome (AIDS)

As shown in Figure 6.11, AIDS incidence in females was consistently highest among African Americans. In 1985, the reported incidence of AIDS among whites, African Americans, Hispanics, and Asian/Others was 0.5, 1.0, 0.4, and 0.1 per 100,000 respectively. It appeared to peak in 1992 for white women at 4.3 per 100,000 and Asian/Other women at 2.2 per 100,000. It peaked in 1993 for Hispanic women at 5.3 per 100,000. Thereafter, AIDS incidence appeared to plateau or decline in these groups, falling to 3.2, 1.2, and 4.7 per 100,000 in 1994 in whites, Asians/Others, and Hispanics respectively. The peak or plateau may be partly due to changes in the AIDS case definition introduced in California in 1993, as noted above. Among African American women, however, AIDS incidence continued to increase, reaching 32.5 per 100,000 in 1994, a rate seven times higher that that of Hispanic women and ten times higher than that of white women.

AIDS incidence in 1985 was less than 1.0 per 100,000 for each age group, as shown in Figure 6.12. Among females between 5 and 64 years old, AIDS incidence increased annually, reaching a peak in 1993. In that year, AIDS incidence was higher among women ages 25-34 years (12.5 per 100,000) and 35-44 years (13.5 per 100,000) compared with females at younger ages (1.4 to 3.1 per 100,000) and older ages (3.4 to 8.3 per 100,000). Among girls under age 5, too few cases were reported each year (less than three cases) to permit calculating an incidence rate. Among women ages 65 and older, AIDS incidence peaked relatively early; it reached 1.4 per 100,000 in 1987, then declined steadily in subsequent years.

Summary of TB, STD, and AIDS Findings

The incidence of TB, syphilis, and gonorrhea were 2 to 4 times higher among males than among females. The incidence of AIDS was almost 40 times greater in males in 1985, but only 10 times greater by 1994. The incidence of chlamydia appeared to be higher in females than males, but the reported case frequencies may not reflect the true incidence of chlamydia among either males or females. Among females, the incidence rates of AIDS and the other sexually transmitted diseases were highest for women ages 15-34 years and for African American women. The incidence of TB was much higher among Asian/Others.

The secular trends (time-related patterns) for these diseases were similar for males and females during the period covered by this report. Gonorrhea incidence declined dramatically between 1986 and 1994. Syphilis incidence increased annually from 1985 to 1987 then it too decreased dramatically in subsequent years, for both males and females. In contrast, the incidence of TB and AIDS both showed increasing incidence from 1985 to the early 1990s. TB incidence began to decline in 1991-92 and AIDS incidence may have begun to decline in 1992-93. Among females, this decline in AIDS incidence was not seen in African Americans.

SECTION 7

RISK FACTORS FOR INJURY AND ILLNESS

This section of the report will present data from the Behavioral Risk Factor Surveillance System (BRFSS), using surveys conducted between 1984 and 1994. The BRFSS is a telephone survey of adults 18 years of age and over, using a random digit dialing sampling method. It is conducted each year by the Department of Health Services, in cooperation with the Centers for Disease Control and Prevention, to monitor behavioral risk factors for injury and disease. Answers to the interview questions provide data on behaviors and other factors that can impair health.

For this report, data were grouped across several years to provide a larger base for calculating percentages. Data related to some risk factors are available for some years and not others because the questions that are asked in the phone interviews are changed slightly from year to year.

Eleven risk factors were selected for this report: smoking, chronic alcohol abuse, acute alcohol abuse (binge drinking), failure to use car seat belts regularly, obesity, hypertension, lack of regular exercise, arthritis, lack of health insurance, and failure to receive screening tests for breast cancer (mammogram) and cervical cancer (Pap test). These were selected because they are risk factors for the leading causes of illness and death in women, as follows:

- Smoking: The leading preventable cause of premature death and disease in women, including heart disease (7) and lung cancer (8);

- Alcohol abuse: May shorten the average life span by an estimated 15 years because of its link to serious liver disease as well as to injury accidents and suicide (9). Alcohol use is involved in almost one half of automobile-related deaths and one third of deaths due to drowning and boating accidents (10), and has been identified as a risk factor for development of colorectal cancer (11);

- Not using seat belts: Related to injury and death in automobile collisions;

- Obesity: Leading risk factor for cardiovascular disease (12);

- Hypertension: Leading risk factor for all forms of cardiovascular disease (13);

- Arthritis: Risk factor for falls and institutionalization (14);

- Lack of regular exercise: Risk factor for elevated serum cholesterol (15), obesity, and diabetes (16);

- Failure to receive mammograms and Pap tests: Risk factor for delayed detection of breast and cervical cancer, which increases risk that the condition will be diagnosed too late to be successfully treated (17 ,18);

- Lack of Health Care Insurance: Risk factor for inability to obtain timely screening services (such as mammograms and Pap tests) and medical care (19).

Some of these risk factors are related to each other. We have included tables to show the association of obesity with diagnoses of hypertension, arthritis, and diabetes among California women; how lack of insurance increased the risk of not receiving cancer screening exams; and how alcohol abuse may be related to unsafe automobile usage. The degree of association is expressed as a ratio. For example, if the percent of women with arthritis is 36 among the obese and only 20 among the non-obese, the ratio equals 1.9. It indicates that obesity nearly doubles the risk of arthritis.

Please refer to Appendix D for the frequencies and rates that were used in preparation of the charts presented in this section.

Comparison Between Men and Women

As shown in Table 7.1, there were statistically significant downward trends for both men and women in the percent who smoked and for men in the percent who lacked regular physical exercise. There was a statistically significant upward trend for both men and women in the

percent who were obese (See Figure 7.1).

Statistical significance for trend could not be calculated for the remaining risk factors included in this report because data were not available for enough years (a minimum of five time periods are needed). However, as shown in Table 7.1, downward trends were apparent for chronic alcohol abuse and for not wearing seat belts regularly, among both men and women. Among women there appeared to be a decrease in the percent who had never received a mammogram screening exam for breast cancer (over age 50 years). Upward trends were apparent for both men and women in the percent who lacked health insurance. No trend was apparent in the percent of women and men with arthritis nor in the percent of women who never received a Pap test for cervical cancer.

As of 1991-92, males were more likely to smoke (22.7 percent of males compared with 17.7 percent of females) and more likely to abuse alcohol both chronically (7.1 percent of males compared with 1.2 percent of females) and in binge settings (26.3 percent of males compared with 7.8 percent of females). Males were more likely to not use their seat belts regularly (13.6 percent of males compared with 8.7 percent of females) and were somewhat more likely to not have health care insurance (22.9 percent of males compared with 16.1 percent of females). On the other hand, women were more likely to have arthritis (25.7 percent of females compared with 14.9 percent of males) and to not have regular physical exercise (26.1 percent of females compared with 19.6 percent of males). There was little difference between them with respect to the prevalence of obesity (about 22 percent for both genders) and hypertension (19 percent vs. 22 percent).

By 1993-94, about one quarter of the adult population in California was obese. Approximately one fifth still smoked, one fifth still failed to exercise regularly, and approximately one fifth had been diagnosed with hypertension. In short, the prevalence of these risk factors for the leading causes of death (heart disease and cancer) remained relatively high.

Smoking

The reported prevalence of smoking was slightly higher among men than among women between 1984 and 1994. The percent of women who reportedly smoked cigarettes declined from 24.0 percent in 1984-86 to 16.7 percent in 1993-94. As shown in Figure 7.2, the decline was seen in all race/ethnic groups except Native Americans and women not included in the listed race/ethnic groups (Others). In 1984-86, the proportion of women who reported they smoked was higher among whites (25.9 percent) and African Americans (26.4 percent). Despite a downward trend, these two groups continued to have the highest percent of smokers through 1993-94 (18.9 percent and 19.7 percent respectively). The prevalence of smoking reported among Hispanic and Asian women declined from approximately 19 percent in 1984-86 to 8-9 percent in 1993-94.

As shown in Figure 7.3, smoking prevalence declined in all age groups. It was initially highest among women ages 45-54 (33.0 percent) and lowest among seniors (15.6 percent). By 1993-94, it had fallen to 18.1 percent and 13.5 percent among women in these two age groups respectively. Among women of childbearing age (18-44 years) the percentage who smoked declined from 22-26 percent in 1984-86 to under 19 percent in 1993-94.

Acute Alcohol Abuse: Binge Drinking

The prevalence of binge drinking (defined as taking five or more alcoholic drinks on one occasion during the past month, by self report) changed little among women in California between 1984-86 (8.4 percent) and 1991-92 (7.8 percent). Among men the prevalence of binge drinking was three times greater and remained virtually unchanged during this period (25.6 percent in 1984-86, 26.3 percent in 1991-92).

As shown in Figure 7.4, among women the prevalence of reported binge drinking was highest among whites (9.6 percent) and Hispanics (7.8 percent) and half as high among African Americans (2.6 percent) and Asians (3.9 percent). By 1991-92, the latest years for which data were available, these percentages had remained approximately the same among women identified as white, Hispanic, and Asian (9.0, 7.2, and 2.3 percent respectively), but appeared to have increased among African Americans, from 2.6 percent to 7.8 percent. The wide variation in reported prevalence of binge drinking among Native American women is probably due to small sample size. These estimates may not be reliable.

As shown in Figure 7.5, the prevalence of reported binge drinking was highest among women of childbearing age (ages 18-44 years). Fifteen percent of the youngest women (18-24 years) were binge drinkers and the percent was lower for each older age group, reaching 1.3 percent among seniors. This age-related downward trend was statistically significant.

Alcohol Abuse: Chronic

The prevalence of chronic abuse of alcohol (defined as taking 60 or more drinks during the past month, by self report) appeared to be declining among women in California, from 3.7 percent in 1984-86 to 1.2 percent in 1991-92. Among men the prevalence of reported chronic alcohol abuse was four to five times greater, and also declined during this period (from 13.4 percent to 7.1 percent).

Among women, as shown in Figure 7.6, chronic alcohol abuse in 1984-86 was reported most frequently by white women (4.1 percent), followed by Hispanic women (3.8 percent), African American women (2.1 percent), and Asian women (1.3 percent). By 1991-92, the percent of women who were chronic abusers had declined among these groups to 1.5, 0.9, 1.2, and 0.1 percent respectively. Among Native American women, it appeared that the prevalence of chronic abuse was relatively high (10.7 percent in 1984-86), but the wide range in percentages suggests that the sample of Native American women was too small to provide reliable estimates.

As shown in Figure 7.7, among women of childbearing age the prevalence of chronic alcohol abuse declined from 3.7 percent in 1984-86 to 1.2 percent in 1993-94. Unlike the binge drinking pattern, there was not an age-related trend in the prevalence of chronic alcohol abuse among women.

Failure to Use Seat Belts Regularly

The percent of women who reported that they did not use their automobile seat belts regularly declined four-fold from 1984-86 to 1991-92, from 36.1 percent to 8.7 percent. Among men, this percentage was higher, but also declined sharply during this period, from 43.3 percent to 13.6 percent.

As shown in Figure 7.8, among women this percentage dropped among African Americans from 40.2 to 12.3 percent, among Hispanics it dropped from 40.2 to 11.9 percent, among whites it dropped from 35.8 to 7.8 percent, and among Asians it dropped from 30.1 to 4.9 percent. However, among Native Americans it showed little change, dropping from 12.3 to 10.9 percent.

As shown in Figure 7.9, there was not a significant age-related trend in the prevalence of not using seat belts.

Association Between Binge Drinking and Use of Automobile

Driving while intoxicated was reported 8.5 times more frequently by women who engaged in binge drinking than by women who did not (10.8 percent among binge drinkers, compared with 0.6 percent among others). Similarly, failing to use seat belts regularly was reported 1.6 times more frequently by women who engaged in binge drinking than by women who did not (16.7 percent among binge drinkers compared with 0.9 percent among others).

Obesity

Obesity was defined as Body Mass Index (weight in kilograms / height in meters2) of 27.3 or greater for women and 27.8 or greater for men. The prevalence of obesity in both men and women showed a clear upward trend during the past decade. The percent of women who were obese increased from 15.7 percent in 1984-86 to nearly a quarter of the adult females (24.2 percent) by 1993-94. Among men the prevalence of obesity was comparable to that in women and there was a similar increase in prevalence during this period, from 17.4 percent to 26.9 percent.

As shown in Figure 7.10, the prevalence of obesity was higher among African American women, (increasing from 25.4 percent to 41.4 percent) than among Hispanics (increasing from 19.4 percent to 29.2 percent) and whites (13.9 percent to 22.2 percent). It was lowest among Asian women and increased slightly (from 5.7 percent to 8.2 percent). The percent of Native American women with body mass in the obese range may be quite high, but estimates based on this small sample size are not reliable.

As shown in Figure 7.11, the prevalence of obesity was highest for women ages 45-54 and 55-64. Their risk of obesity remained highest throughout the period covered by this report although there was not a significant trend, either upward or downward, in this risk. In the other age groups the risk of obesity was lower, but it increased significantly. Obesity was least prevalent in the youngest group (18-24), among whom it rose significantly, from only 7.6 percent in 1984-86 to 10.9 percent in 1993-94. Among women ages 25-34 it increased significantly, from 10.6 to 17.4 percent and among women ages 35-44 it increased significantly, from 17.1 to 27.8 percent. In the oldest age group (65+), the prevalence of obesity increased significantly, from 20.5 to 26.8 percent.

Hypertension

The reported prevalence of medically diagnosed hypertension was almost identical in women and men (21 percent) and remained virtually unchanged between 1984-86 and 1993-94.

As shown in Figure 7.12, the prevalence of medically diagnosed hypertension in women in 1984-

86 was highest among African Americans (28.2 percent), followed by whites (23.0 percent), Hispanics (19.9 percent), then Asians (9.7 percent) and Native Americans (9.0 percent). Between 1984-86 and 1993-94, the prevalence of hypertension increased significantly among African Americans (from 28.2 percent to 34 percent) and Native Americans (from 9.0 percent to 28 percent).

The prevalence of hypertension in women increased with age, as shown in Figure 7.13. This age-related trend was statistically significant. However, there was no significant change between 1984 and 1994 in the percentage of women with hypertension in any age group.

Lack of Exercise

The percent of California adults who reported that they did not engage in regular physical exercise was slightly greater among women than among men. There was a downward trend in failure to exercise among males (from 25.5 to 18.1 percent) and females (from 29.7 to 21.9 percent), but it was significant only for males. Despite the decline, about one fifth of both men and women still lacked the benefits of regular exercise.

As shown in Figure 7.14, between 1984 and 1994, the percent of white women who did not take part in regular physical exercise appeared to decline steadily and significantly, from 25.7 percent to 16.1 percent. Among African Americans it declined steadily, from 31.4 to 26.1 percent, but the trend was not statistically significant. Among the remaining groups there was no overall pattern of increase or decrease: the percentage of women who lacked regular exercise varied between 31.4 and 41.2 percent among Hispanics, between 23.2 and 47.0 percent for Asians, and varied between 7.5 and 24.4 percent for Native Americans.

As shown in Figure 7.15, at the beginning of this study period (1984-86) the percent of women who reported that they did not have regular physical exercise was lowest for women ages 18-24 (22.7 percent), and was higher for each successive age group, reaching 37.8 percent in women age 65+. This age-related trend was statistically significant. By 1993-94, the percent of each age group lacking regular exercise was lower than at the beginning, although the downward trend was not significant for any group. At the end of the study period the age-related trend was not significant either.

Arthritis

The prevalence of self-reported arthritis during the period 1984 to 1994 varied between 22 and 25 percent among women and varied between 13 percent and 15 percent among men. As shown in Figure 7.16, by 1991-92 the percentage was higher among whites (28.9 percent) and African Americans (28.8 percent) compared with Asians (19.8 percent), Native Americans (18.3 percent), and Hispanics (16.3 percent).

There was a significant association between arthritis and age, as shown in Figure 7.17. In 1991-92 the percentage of women who reported having arthritis was only 3.3 percent for women ages 18-24 and increased to 64.0 percent among women age 65+.

Association Between Obesity and Other High Risk Conditions

Women who were obese were two to three times more likely to have several high risk

conditions. Compared with other women, the obese were 2.7 times more likely to be diabetic (11.3 of the obese compared with 3.0 percent among the non-obese), 2.3 times more likely to have hypertension (38.2 of the obese compared with 16.9 percent among the non-obese), and 1.9 times more likely to have arthritis (35.7 of the obese compared with 19.1 percent among the non-obese).

Screening Exams: Mammograms

Among women over age 50 there appears to have been a decline between 1987 and 1994 in the percent who reported never receiving a screening mammogram to detect breast cancer, in all race/ethnic groups (Figure 7.18). As of 1993-94 it was higher among Native American women (40.7 percent) and Hispanic women (24.7 percent), compared with whites (12.7 percent), African Americans (11.3 percent), and Asians (15.4 percent).

As shown in Figure 7.19, the percent of women who had never had a mammogram declined among women ages 45 years and older, for whom baseline and periodic exams are recommended, with the greatest decline seen among seniors (from 44.8 percent to 14.4 percent). There was even a decline among younger women (35-44 years old) in the percent who never received a mammogram, from 50.7 percent to 32.5 percent.

Screening Exams: Pap Tests

As shown in Figure 7.20, the percentage of women who reported never receiving a Pap screening exam to detect cervical cancer remained below 4 percent for white and African American women. However, this percent was two to three times greater, and even increased, during this period among Asians (17 .0 percent to 20.9 percent) and Hispanics (12.1 percent to 14.1 percent). The percentages reported for Native Americans may not be reliable due to small sample size.

As shown in Figure 7.21, the percentage of women who had never received a Pap test was almost five times higher among the youngest women (25 percent in 1993-94) compared with the older age groups (2.0 to 6.3 percent in 1993-94).

Lack of Health Insurance

In California, between 1989 and 1994, the percentage of adults who reported not having health care insurance was increasing and was slightly higher for men (rising from 15.5 percent to 19.8 percent) than for women (rising from 12.7 percent to 16.5 percent).

As shown in Figure 7.22, among women this percent was over twice as high for Hispanic women (reaching 36.8 percent in 1993-94) compared with Asians (16.4 percent), African Americans (12.8 percent), and whites (10.2 percent). Among Native Americans this percentage may have been as high as 25 percent, but the samples were too small to permit reliable estimation of insurance coverage in that group.

As shown in Figure 7.23, the percent of women who reported that they had no health insurance was highest among the youngest women and it declined with age. By the end of the period covered by the report, there was a significant age-related trend, with the youngest women most at risk for not having health insurance. Between 1984 and 1994, the percent who were uninsured

increased about 40 percent among women ages 18-24 (from 20.7 to 29.1 percent) and ages 25-34 (from 15.9 to 22.9 percent). During this time it increased about 20 percent for women ages 35-44 and over 70 percent for women ages 45-54. It remained unchanged for women ages 55-64 (about 13 percent). It remained very low among women age 65+ (1 percent or less).

Association Between Health Insurance Coverage and Cancer Screening Exams

Women without health insurance were almost three times more likely to have never received important cancer screening tests. Uninsured women were 2.8 times more likely to have never received a Pap test (21.8 among the uninsured compared with 7.4 percent among the insured). Among women over age 50 years, the uninsured were 1.8 times more likely to have never received a mammogram (47.7 among the uninsured compared with 28.0 percent among the insured).

Summary of Risk Factors

Men were more likely than women to smoke cigarettes, to use alcohol, to not use their seat belts, and to not have health insurance. Women were more likely to have little or no regular physical exercise and to have arthritis. Men and women were about equally likely to be obese and hypertensive.

The prevalence of smoking decreased significantly for both males and females and the percent who reported body weight in the obese range increased significantly for both. The percent of adults who reported little or no exercise decreased in both males and females, but the downward trend was significant only among males.

At the beginning of the time period covered by this report, the risk factor with the highest prevalence among women was never having had a mammogram (61.7 percent of women over age 50 in 1987-88). The other leading health risk factors (in 1984-86) were: irregular seat belt use (36.1 percent), lack of exercise (29.7 percent), and smoking (24.0 percent). By the end of the period, never having had a mammogram remained the risk factor with the highest prevalence (42.2 percent), followed by lack of exercise (21.9 percent) and obesity (24.2 percent).

As of 1993-94, white women had the highest levels of alcohol abuse (both binge and chronic drinking) and arthritis, compared with women in the other race/ethnic groups, and an elevated prevalence of smoking as well. Among African American women there was elevated prevalence of smoking, binge and chronic alcohol abuse, obesity, hypertension, and not using seat belts. Among Hispanic women there was an elevated risk of not using seat belts, not getting regular exercise, obesity, and never having received a mammogram or a Pap test. They were the group most likely to not have health insurance. Native American women had a similar pattern of risk to the Hispanics: they had higher levels of obesity and hypertension, smoking, never having had a mammogram or Pap test, and not having health insurance. Asian women had the highest percentage reporting never having had a Pap test, despite the fact that only a small percent lacked health insurance.

The prevalence of both hypertension and arthritis increased significantly with increasing age. The oldest women (age 65+) were most likely to have these conditions. In contrast, risk of binge drinking and not having health insurance both decreased significantly with age. It was the youngest women (18-24) who were most at risk. For lack of physical exercise there was a

significant age-related trend at the beginning of the study period (1984-86), with older women most at risk. By the end of the study period, there no longer was a significant age trend because the percentage who did not exercise had dropped faster among older women than among younger women. For the remaining risk factors reported here, there was no age-related trend.

SUMMARY

During the past decade there was significant improvement in some of the leading causes of hospitalization and death in California women. We found:

- A significant decline in death rates for heart disease and cancer. Nevertheless, these remained the leading causes of death for California women.

- A significant decline in the percent of women over age 50 who had never had a mammogram, as well as a significant decrease in mortality due to breast cancer.

- A significant improvement in the use of seat belts, as well as a significant decline in mortality due to motor vehicle accidents. Nevertheless, motor vehicle accidents remained the leading cause of death for girls and for women under age 35.

- A significant decline in mortality due to suicide.

Despite this progress, the data in this report also showed that the status of women's health declined in several areas from 1984 to 1994. For example, we found:

- A significant increase in the mortality associated with diabetes. We also found that diabetes-related mortality is more extensive than shown in most reports of mortality data because it usually is not listed as the first (underlying) cause of death in vital statistics records.

- A significant increase in the percent of women who were obese.

- A significant increase in mortality due to lung cancer.

- A significant increase in mortality due to AIDS.

- Elevated incidence of chlamydia: it was four times greater than that of gonorrhea. Incidence of chlamydia may be even higher since there is probably significant underdiagnosis and underreporting of the infection.

High Risk Groups

- **Southeast Asian Women**

Southeast Asian women had high fertility rates combined with high teen birth rates, and high rates of late prenatal care. A large proportion of the births were paid for by Medi-Cal, which indicates that many of these mothers were poor. In addition, Asians as a group were more likely than other groups to have never received a mammogram or Pap test. Not receiving these screening exams puts them at higher risk for late diagnosis of breast or cervical cancer.

- **African American Women**

Among all women, African American women had the shortest life expectancy. They had the highest levels of mortality at every age, especially in infancy and young adulthood. They had the highest mortality from heart disease and stroke. They also had the highest prevalence of hypertension and obesity, two of the leading risk factors for cardiovascular disease.

African American women had the highest mortality rates for homicide and for AIDS. They also had the highest incidence of other sexually transmitted diseases (syphilis and gonorrhea). Relatively large proportions of African American women reported having incomes in the poverty range and limited education levels, especially the elderly.

- **Hispanic Women**

Hispanic women were least likely of all women to have any insurance coverage and least likely to begin prenatal care in the first trimester of pregnancy, although they had the highest fertility rates and largest family size. A high percent of the elderly Hispanic women had never received a mammogram. They were also more likely than any other group to have less than a high school education and more likely to use a language other than English at home. Together, these factors suggest that health education messages do not reach them easily.

- **Native American Women**

Health data that identify Native American women separately from other race/ethnic groups are limited (See below: Need For Further Study). However, the available information suggests that this is a high risk group. Among Native American women who gave birth during the period covered by this report, relatively large percentages were teens, had less than a high school education, began prenatal care late, and relied on Medi-Cal to pay for the birth. Findings from the risk factor survey suggest that Native American women have elevated risk of smoking, binge and chronic alcohol abuse, obesity, hypertension, and arthritis. Among the elderly, relatively high percentages have never received Pap tests to detect cervical cancer and do not have health insurance.

- **White Women**

White women had the second shortest life expectancy. They were at greater risk for death due to breast cancer and suicide than were other women. Among elderly women, whites had elevated risk of death due to falls and chronic obstructive pulmonary disease.

- **Women of Childbearing Age**

Women of childbearing age have increased need for medical services, because of their need for care during pregnancy and childbirth, and increased need for economic resources to care for their families. However, they were more likely to be poor and more likely to lack insurance coverage than women past their childbearing years. Furthermore, compared with women of childbearing age who did not give birth, new mothers were more likely to live below the poverty line and to have less than a high school education.

Over half of the women with children were in the work force, even if their children were preschool-aged. Women with family responsibilities who also work by definition have two jobs and are at risk for stress-related problems, unless they have adequate assistance. They also have limited time for health promotion and disease prevention activities.

- **Senior Women**

The senior women are most at risk for sickness and death. Almost half in this age group reported that they had been diagnosed with hypertension, about one quarter were obese, and about 60 percent had arthritis. Fortunately, nearly all had health insurance because of the Medicare Program. Nearly half of the senior women in California were widowed and over half had incomes in the poverty range, putting them at risk for inadequate housing (which increases the risk of falls), poor nutrition (which contributes to bone disorders, difficulty managing diabetes, obesity, and cancer), and difficulty with transportation for medical visits or to shop for necessities.

Seniors were more likely than younger women to have limited formal education, especially among Hispanics and African Americans. These limitations may make it more difficult for them to receive and understand health-related information such as: notices about immunization services to prevent influenza and pneumonia; directions for the correct use of prescribed medications in order to prevent hospitalization for adverse reactions; or instructions from their providers.

Emerging Problems

In this report we identified a number of emerging problems that are likely to cause an increasing burden of illness among women in California and an increasing need for health care services.

- **Aging of the "Baby Boom"**

Women who were born in the post World War II "baby boom" had reached ages 35-45 during the period covered by this report. They will reach age 55-65 in 2010 and age 65-75 by 2020. The resulting increase in the number of elderly women is likely to lead to dramatic increases in the need for medical services for the health problems that impact the elderly, such as heart disease, cancer, falls, COPD, pneumonia/influenza, and adverse drug reactions. There will also be an increase in the need for screening services related to these illnesses, particularly mammograms and Pap tests, blood pressure screening, and testing blood glucose levels and bone density.

In this report, we found that women over age 65 were more likely to be poor, be widowed, and have restricted mobility than were younger women. As the size of the elderly population increases, there will be an increased need for programs to ensure

adequate housing and nutrition among the elderly, as well as increased need for services to assist with routine activities such as shopping for necessities, cooking, and traveling to medical appointments.

- **AIDS**

Female mortality due to AIDS increased significantly in women of all race/ethnic groups, particularly among African American women. According to the Office of AIDS, California Department of Health Services, "The female proportion of total AIDS cases in California increased steadily from 2 percent in the early 1980's to over 8 percent in 1993..." (p. 5.1, *Epidemiologic Overviews of HIV/AIDS Among Racial/Ethnic Communities in California, With a Special Supplement on HIV/AIDS Among Women*). It is essential to recognize the changing face of the AIDS epidemic in California and adjust services, outreach, and research policies accordingly.

- **Obesity**

Obesity was the only behavioral risk factor that showed a significant increase among California women during the past decade, in spite of intense media and medical promotion of the health and beauty benefits of being slim. The increase was greatest among African American and Hispanic women. Increasing prevalence of obesity merits serious attention because it is an important risk factor for the leading causes of hospitalization and death among women, including: heart disease, stroke, some cancers, and diabetes. The high prevalence of obesity in middle aged women in the 1990s is likely to result in increases in the prevalence of heart disease and other obesity-related illnesses among elderly women after 2010, as these women age. This would reverse the downward trend in cardiovascular disease observed during recent decades.

Need For Further Study

- **Collecting and Reporting Data For Asian Sub-populations**

In this report, as in the *Analysis of Health Indicators for California's Minority Populations* prepared by the Center for Health Statistics in 1994, it is clear that the natality, illness and mortality patterns of Southeast Asians are substantially different from those of other Asian groups, such as the Chinese and Japanese. It is essential that health-related data--including births, deaths, hospitalizations, and communicable disease cases--be reported in a way that permits differentiation among these groups. It is also essential that population estimates for these groups be routinely specified. Lacking this information, it is difficult to carry out the necessary public health planning related to Asian women.

- **Collecting and Reporting Data For Native Americans**

Native American women appear to be a high risk group. As with Southeast Asian women, it is important to make every effort to report both their health data and population estimates separately. In population surveys it is important to obtain sufficiently large samples of Native Americans so that valid and reliable estimates of their health risk can be made.

TECHNICAL NOTES AND ACKNOWLEDGEMENTS

Acknowledgements

This report was prepared as a collaborative effort by the Center for Health Statistics (CHS) and the Office of Women's Health (OWH), California Department of Health Services (DHS). The principal authors were Mary Nelson, PhD, MPH, Office of Women's Health and Sheila Dumbauld, Center for Health Statistics. Fred Richards, Center for Health Statistics, who was responsible for extrafting data from mainframe birth and death files.

We wish to acknowledge the vision and leadership of Kimberly Yeager, MD, MPH, in lauching this project and thank her for her support during its completion. We also wish to thank the following people for providing data: Don Will, Tuberculosis Control Branch; Jean Montes, STD Control Branch; Farzaneh Tabnak, PhD, Office of AIDS; and Mary Heim, California Department of Finance.

Office of Women's Health

Governor Pete Wilson established the California Office of Women's Health in August 1993 by Executive Order W-57-93. The legal mandate for the Office was enacted the following year (AB2200, Speier, Chapter 5900, Statutes of 1994). OWH serves as the focal point within the Department of Health Services to coordinate and develop policy, programs, partnerships, and research related to women's health in California. Specifically, the OWH is charged with: analysis and development of public health policy related to women's health; promoting more comprehensive and effective approaches to improve women's health, including better coordination of existing programs and resources; developing communication and coordination among the various (federal, state, local and private) agencies that target women's health issues and establishing mechanisms to monitor them.

This office dedicated its initial efforts to establishing internal and external partners and conducting an inventory of the resources in the Department of Health Services for addressing health needs of women in California. The Office has created a statewide Women's Health Advisory Council to provide a forum where representatives of a wide variety of private and public agencies can meet to discuss, review, and propose policy recommendations. The OWH has actively monitored and analyzed proposed legislation which is likely to impact women's health. An inventory of data sources and an inventory of DHS programs related to women's health issues were prepared by the Office for publication by DHS in the Fall of 1996.

Center for Health Statistics

The Center for Health Statistics was organized in 1993 and is charged with the mission of monitoring the health status of Californians. Within the CHS, the Office of Health Information

and Research (OHIR) is responsible for coordinating the development of health information systems and conducting research relating to the health status of California's population.

Within the Department of Health Services, responsibility for definition and maintenance of databases rests with the individual programs that collect the data. The various DHS data systems are not centralized within the CHS, except the vital statistics records (birth and death data). Research reports that require the use of more than the vital statistics database, such as this report on women's health, are usually prepared as a collaborative effort.

Data Sources

The principal data sources used in preparation of this report included the following:

Population and Demographic Data. Population estimates for census years and non-census years were obtained from the California Department of Finance. The detailed demographic data for 1990 was obtained from the 1990 California Public Use Microdata Sample (5% sample), purchased from the US Department of Commerce, Bureau of the Census.

Births and Deaths. The California Department of Health Services, Center for Health Statistics, Office of Vital Records, was the source for the birth and death data that appear in this report. These data were tabulated from the Birth and Death Statistical Master Files for the years 1985 through 1994.

Causes of Death/Hospitalizations. The California Office of Statewide Health Planning and Development (OSHPD) was the source for the hospitalization data used in this report. OSHPD collects data on all hospitalizations from acute care hospitals throughout the state. The data presented in this report are based on numbers of discharges from these hospitals and not on number of patients. Numbers shown in the report can represent multiple visits for the same patient. Birth data from this file include only births from acute care hospitals and do not include home births and births from birthing centers.

Tuberculosis. The tuberculosis data were provided by the Tuberculosis Control Branch of the California Department of Health Services. This Branch maintains the statewide surveillance system for tuberculosis cases reported by medical care providers in California.

Sexually Transmitted Diseases. The sexually transmitted disease data were provided by the STD Control Branch of the California Department of Health Services. This Branch maintains the statewide surveillance system for sexually transmitted diseases reported by medical care providers and laboratories in California.

Acquired Immune Deficiency Syndrome (AIDS). The AIDS incidence data were provided by the Office of AIDS of the California Department of Health Services. This Office maintains the statewide registry of AIDS cases reported in California.

Behavioral Risk Factor Survey. The data reported in Chapter 7 were obtained from the Behavioral Risk Factor Survey System (BRFSS) for the years 1984 through 1994. The BRFSS is a telephone survey of adults aged 18 and over, using a random digit dialing

sampling method. It is conducted by the Department of Health Services in cooperation with the Centers for Disease Control and Prevention. Answers to the interview questions provide data on risk factors that can impair health, such as smoking prevalence, drinking patterns, obesity and hypertension. For this report, data were grouped across several years to provide a larger base for calculating percentages. The actual sample sizes are given in Table 1.

Within telephone area code clusters, the BRFSS utilizes a stratified random sampling strategy with over-sampling of smaller age and race race/ethnic groups. In analysis, the data were weighted to provide meaningful population estimates. The weights standardized the estimates to the 1990 California population, yielding the distributions shown in Table 2 below:

Race/ethnicity was defined by the following groups: whites, African Americans, Hispanics, Asian/Pacific Islanders, Native Americans (including Aleutian, Eskimo, American Indian), and Others. The number of Native American and Other respondents in each of the combined samples was relatively small. As a result, percentages that were calculated for members of these two groups should be interpreted with caution.

The content of the questionnaire that was used in the phone interview was changed slightly from year to year. As a result, data related to some of these risk factors are available for some, but not all, years.

Eleven risk factors were selected for use in this report. The definitions of these variables and the years for which data are available are as follows:

Smoking (available for 1984-94): Respondent is currently a smoker, regular or irregular.

Alcohol abuse: binge (1984-92): Respondent reported having five or more drinks on at least one occasion during the past month.

Alcohol abuse: chronic (1984-92): Respondent reported having sixty or more drinks during the past month.

Failure to use seat belts (1984-92): Respondent wears seat belt sometimes, seldom, or never.

Obesity (1984-94): Respondent has Body Mass Index (kg/m2) of at least 27.3 (females) or 27.8 (males).

Hypertension (1984-94): Respondent has ever been told by a physician, nurse, or other health professional that he/she has high blood pressure.

Lack of exercise (1984-94): Respondent does not participate in any physical activity.

Arthritis (1984-91): Respondent ever had arthritis.

Failure to have a mammogram (1988-94): Respondent never had a mammogram.

Failure to have a Pap Test (1990-94): Respondent never had a Pap Test.

Lack of health insurance (1989-94): Respondent does not report having any health care

insurance coverage, including public sector programs.

We were unable to identify statewide data resources for domestic violence and mental illness. Thus, even though these are important issues for women, they are not included in this report.

Race/Ethnic Coding

The categories for race/ethnicity in this report may differ from one data source to another. Data from the vital statistics database are self reported on the birth certificate but are provided by next of kin, coroner or funeral director on the death certificate. Hispanic classification on both birth and death certificates are obtained by asking two questions: first, for race category, and second for whether or not the respondent is of Hispanic origin. In retrieving data from these databases, the Center for Health Statistics uses the Hispanic origin question if answered affirmatively to classify Hispanics. Therefore, Hispanics can be of any race group. The classifications used in this report are mutually exclusive categories. For data from the death certificate, four major categories are available: white, Hispanic, African American and Asian/Other.

The calculation of rates, such as death rates, requires use of population data in the denominator. Consequently, the race/ethnic categories available in the population data limit the classifications that can be used for calculation of rates. The CHS obtains population data from the Department of Finance, which only produces populations estimates for the four main groups, except in a Census year. The mortality rates reported in this report are stratified by the four major race/groups only: white, African American, Hispanic, and Asian/Other.

The calculation of percentages (e.g., the percent of newborns with weight under 2,500 Kg), does not require population estimates and can make use of the full race/ethnicity detail available in the data. In this report we made use of the detailed race/ethnicity information reported in the birth files and reported percentages stratified by the following major and sub-population groups: white, African American, Native American (comprised of American Indian, Eskimo and Aleut), Hispanic (comprised of Mexican, Cuban, Puerto Rican and Other Hispanic), Asian (comprised of Chinese, Japanese, Korean, Vietnamese, Cambodian, Thai, Laotian, Filipino, Asian Indian and Other Asian) and Pacific Islander (comprised of Hawaiian, Guamanian, Samoan and Other Islander).

In reporting hospitalization data from the Office of Statewide Health Planning and Development's Hospital Patient Discharge Files, we did not attempt to calculate population rates because individual persons may have multiple records. In reporting total numbers of hospitalizations we were able to make use of all the race/ethnic detail available in the data using the following categories: white, African American, Hispanic, Native American (comprised of American Indian, Eskimo and Aleut), Asian/Pacific Islander and Other Race. The race/ethnic data in this data file are based on self-report, in response to a single question.

Diagnostic Coding for Hospitalizations and Deaths

Data for mortality are based on diagnostic codes from the International Classification of Diseases, Ninth Revision (ICD-9). For each cause of death shown in the tables in this report, the corresponding codes from this reference are shown. To be consistent, the hospitalization data were also reported using the ICD-9 codes, rather than the Diagnostic Related Group Codes.

Age-Adjusted Death Rates

The death rates in this report were age-adjusted using the direct method. The 1940 US population was used as the standard for age-adjusting the death rates. The basic assumption of direct age adjustment of rates is that to make valid comparisons of death rates among race/ethnic groups, differences in the age composition of race/ethnic groups must be controlled. The age composition of a population is the primary determinant of the risk of dying (20).

If each race group in 1994 is distributed by age just as the total US population was in 1940 (when the population had relatively fewer old people) then, in a sense, these artificial rates put the race/ethnic groups on an equal footing with respect to age composition and the effects of age upon the risk of dying. It is obvious that "all other things being equal", a group made up of younger people is not as likely to have as many deaths during a given time period as a group made up of older people. Thus, age adjusting eliminates the effect of differences in the distribution of age among race groups, making any remaining differences in death rates explainable by other factors.

See Appendix E for a description of the direct method used to age adjust the death rates shown in this report.

REFERENCES

Rothenberg & Kaplan JP. Chronic Disease in the 1990s. Annu Rev Public Health, 1990;11:267-96.

Alan Guttmacher Institutes. Facts in Brief: Teenage Reproductive Behavior in the United States. New York;1993.

Fraser AM, Brockert JE, Ward RH. Association of Young Maternal Age with Adverse Reproductive outcomes. MEJM. 1995; 332(17):1113-7.

Faro S. *Chlamydia trachomatis*: Female Pelvic Infection. Am J Obstet Gynecol 1991;164:1767-70.

Unpublished estimates. Centers for Disease Control and Prevention, National Center for Prevention Services, Division of STD/HIV Prevention. 1996

Singleton JA, Tabnak F, Kuan J, Rutherford GW. Human Immunodeficiency Virus Disease in California--Effects of the 1993 Expanded Case Definition of the Acquired Immunodeficiency Syndromes. West J Med, 1996;164:122-9.

Willett WC, Green A, Stampfer MJ, et al. Relative and Absolute Excess Risks of Coronary Heart

Disease Among Women Who Smoke Cigarettes. N Engl J Med 1987;317:1303-1309.

Office on Smoking and Health. Reducing the Health Consequences of Smoking: 25 Years of Progress: a Report of the Surgeon General, 1989. Rockville, Maryland: U.S. Department of Health and Human Services, 1989.

Smith EM, Cloninger R, Bradford S. Predictors of Mortality in Alcoholic Women: a Prospective Follow-up Study. Alcohol Clin Exp Res 1983;7:237-243.

Public Health Services, Healthy People 2000: National Health Promotion and Disease Prevention Objectives. Washington, DC: U.S. Department of Health and Human Services, 1991.

DeCrosse JJ, Tsioulias GJ, Jacobson JS. Colorectal Cancer: Detection, Treatment and Rehabilitation. CA Cancer J Clin 1994;44:27-42.

Barrett-Connor EL. Obesity, Atherosclerosis, and Coronary Artery Disease. Ann Intern Med 1985;103:1010-1019.

Stokes J, Kannel WB, Wolf PA, Cupples LA, D'Agostino RB. The Relative Importance of Selected Risk Factors for Various Manifestations of Cardiovascular Disease among Men and Women from 35 to 64 Years Old: 30 Years of Follow-up in the Framingham Study. Circulation 1987;75(6 pt 2): 65-73.

Public Health Service. Women's Health: Report of the Public Health Task Force on Women's Health Issues, Vol. II. Washington, DC: U.S. Department of Health and Human Services, 1987:18.

American Heart Association. Heart and Stroke Facts: 1994 Statistical Supplement. Dallas, Texas: American Heart Association, 1993.

Helmrich SP, Ragland DR, Leung, Paffenbarger RS Jr. Physical Activity and Reduced Occurrence of Non-Insulin-Dependent Diabetes Mellitus. N Engl J Med 1991;325:147-152.

National Center for Health Statistics, United States, 1992. Hyattsville, Maryland: Public Health Service, 1993.

Devesa SS, Young JL Jr., Brinton LA, Fraumeni JF Jr. Recent Trends in Cervix Uteri Cancer. Cancer 1989;64:2184-2190.

Romans MC, Marchant DJ, Pearse WH, Gravenstine JF, Sutton SM. Utilization of screening mammography 1990. Wom Health Issues 1991;1:102-8.

Fleiss JL. Statistical Methods for Rates and Proportions, 2nd Edition. New York, John Wiley and Sons, 1981.

APPENDICES

APPENDIX A

FREQUENCIES AND PERCENTAGES USED IN PREPARATION OF TABLES AND CHARTS IN SECTION 1

APPENDIX B

FREQUENCIES USED IN PREPARATION OF TABLE 3.8 IN SECTION 3

APPENDIX C

FREQUENCIES AND PERCENTAGES USED IN PREPARATION OF TABLES AND CHARTS IN SECTION 6

APPENDIX D

FREQUENCIES AND PERCENTAGES USED IN PREPARATION OF TABLES AND CHARTS IN SECTION 7

APPENDIX E

AGE-ADJUSTMENT METHODOLOGY

Age-adjustments calculated in this report follow the procedure used in setting the national Objectives for the Year 2000 . The standard population used was the 1940 US standard million. There were 11 age groups used in the procedure, as shown in the following example.

To calculate an age-adjusted rate using the direct method:

Step 1: Array the data (number of deaths and population) in the 11 age groups (Columns A and B).

Step 2: Calculate age-specific rates by dividing the numerator (number of deaths) by the

denominator (population) and multiply the result by 100,000 (Column C).

Step 3: Multiply each age-specific rate by the corresponding standard age proportion (column D) and enter the result in Column E.

Step 4: Sum the rates in Column E to obtain the age-adjusted rate: In this example, 118.3 deaths per 100,000 population.

[Return to the Office of Women's Health HomePage](#)

Last Updated January 23, 1998